Zentralwerkstatt und
Ersatzteildepot
für ORION-Produkte

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SERVICE MANUAL

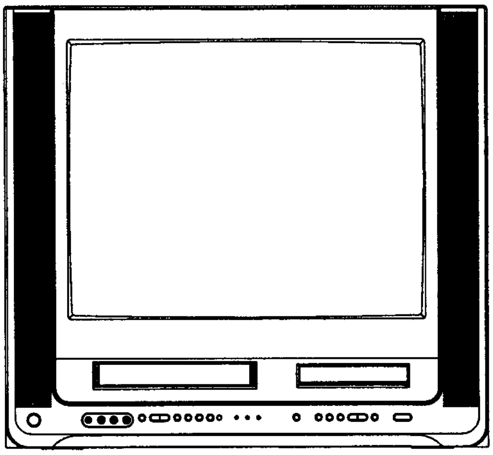
Nachdruck bzw. Kopieren dieser Unterlagen ist grundsätzlich verboten!

ORION

COMBI 2115 SI

**COLOR TELEVISION/DVD VIDEO PLAYER/
VHS VIDEO CASSETTE RECORDER**

ORIGINAL
CHASSIS CODE A



Best. Nr. SM2115

Design and specifications are subject to change without notice.

SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.
Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a ⚠ mark, the designated parts must be used.

4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

6. AVOID AN X-RAY

Safety is secured against an X-ray by considering about the cathode-ray tube and the high voltage peripheral circuit, etc.
Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.
Repairing except indicates causes rising of high voltage, and it emits an X-ray from the cathode-ray tube.

7. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

(INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the eternal exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note 1]**.
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

[Note 1]

If you have not the 500V insulation resistance meter, use a Tester.

[Note 2]

External exposure metal: Antenna terminal
Earphone jack

HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the CHASSIS CODE.)

1. MODEL NUMBER and CHASSIS CODE
   You can find it in the back of your unit.
2. PART NO. and DESCRIPTION
   You can find it in your SERVICE MANUAL.

GENERAL SPECIFICATIONS

G-1	**TV System**	CRT		CRT Size / Visual Size		21 inch / 508.0mmV
				CRT Type		Normal
				Deflection		90 degree
				Magnetic Field BV/BH		+0.45G/0.18G
		Color System				PAL/SECAM
		Speaker				2 Speaker
				Position		Front
				Size		1.8 x 3.9 Inch
				Impedance		8 ohm
		Sound Output		MAX		1.5W + 1.5W
				10%(Typical)		1.5W + 1.5W
G-2	**VCR System**	System				VHS Player / Recorder
		Video System				PAL/SECAM
		Hi-Fi STEREO				Yes
		NTSC PB				Yes
		Deck		DECK		OVD-7
				Loading System		Front
				Motor		3
		Heads	Video Head			4 Heads
			FM Audio Head			2 Heads
			Audio /Control			Mono /Yes
			Erase(Full Track Erase)			Yes
		Tape Speed	Rec	PAL/SECAM		SP/LP
				NTSC		-
			Play	PAL/SECAM		SP/LP
				NTSC		SP
		Fast Forward / Rewind Time (Approx.) at 25oC			with Cassette	FF:1'48"/REW:1'48" at E-180
		Forward/Reverse Picture Search		NTSC or PAL-M		SP=3x,5x
				PAL or SECAM		SP/LP=5x,7x/7x,13x
		Frame Advance				Yes
		Slow Speed				1/5, 1/10,1/30
G-3	**DVD System**	Color System				PAL
		Disc				DVD, CD-DA, CD-R/RW, Video CD, SVCD
		Disc Diameter				120 mm , 80 mm
		Deck		Disc Loading System		Front Loading
				Motor		2 Motors
		Pick up				1-Lens 2-Beams System
		Playback time(Max)	DVD 1-L	DVD 1-Layer		135min (4.7GB)
				DVD 2-Layer		245min (8.5GB)
				CD		74min
				VIDEO CD		74min
		Search speed		Fwd		2-15 times / 4 step(DVD, Video CD) 2-20 times / 4 step (CD)
					Actual	2-45 times (DVD, Video CD) 4-40 times (CD)
				Rew		2-15 times / 4 step(DVD, Video CD) 2-20 times / 4 step (CD)
					Actual	2-45 times (DVD, Video CD) 4-40 times (CD)
		Slow speed		Fwd		1/8-1/2 times (DVD, Video CD)
					Actual	-
				Rew		-
					Actual	-
G-4	**Tuning System**	Broadcasting System				CCIR French System B/G, L
		Tuner and Receive CH		System		1 Tuner
				Destination		CCIR Hyper + France CATV
				Tuning System		F-Synth
				Input Impedance		VHF/UHF 75 ohm
				CH Coverage	(SECAM)	F2~F4, FB~FQ, F21~F69
					(PAL)	E2~E4, X~Z+2, S1~S10, E5~E12,S11~S41,E21~E69
		Intermediate Frequency				PAL/SECAM(U&VH)/SECAM(VL)
				Picture(FP)		38.9/38.9/34.4MHz
				Sound(FS)		33.4/32.4/40.9MHz
				FP-FS		5.5/6.5/6.5MHZ
		Auto Tuning Method				ALL Band (Not C.C.I.R. CH Plan)
		Preset CH				80CH
		Stereo/Dual TV Sound				Yes
		Tuner Sound Muting				Yes
G-5	**Signal**	Video Signal		Input Level		1 V p-p/75 ohm
				Output Level		1 V p-p/75 ohm
				S/N Ratio (Weighted) at DVD Mode		65dB
				S/N Ratio (Weighted) at VCR Mode		53dB
				Horizontal Resolution at DVD Mode		400 Lines

GENERAL SPECIFICATIONS

				Horizontal Resolution at VCR(SP)Mode	240 Lines
		RGB Signal		Output Level	-
		Audio Signal		Input Level	-3.8dBm/50K ohm
			VCR	Output Level (0dB=0.775Vrms)	-3.8dBm/1K ohm
			DVD	Output Level (-20dBFs 0dBFs=2.0Vrms)	-12.0dBm/1k ohm
				Digital Output Level	0.5 V p-p/75 ohm (DVD)
				S/N Ratio at DVD (Weighted)	90 dB
				S/N Ratio at VCR(SP) (Weighted)	42 dB
				Harmonic Distortion at DVD Mode	0.06% (1kHz)
				Harmonic Distortion at VCR(SP) Mode	1.5% (1kHz) Typical
				Frequency Response :	
				DVD Mode at DVD	4Hz - 22kHz
				at VIDEO CD	4Hz - 20kHz
				at SVCD	4Hz - 20kHz
				at CD	4Hz - 20kHz
				VCR Mode at SP	100Hz - 10kHz
				at LP	100Hz - 5kHz
				at SLP(EP)	-
		Hi-Fi Audio Signal		Dynamic Range : More than	75 dB
				Frequency Response :	20Hz - 20kHz
				Wow And Flutter : Less than	0.01 %Wrms
				Channel Separation : More than	60 dB
				Harmonic Distortion : Less than	1.0 %
G-6	**Power**	Power Source		AC	230V 50Hz
				DC	-
		Power Consumption		at AC	75 W at 230 V 50 Hz
				at DC	-
				Stand by (at AC)	5.5 W at 230 V 50 Hz
				Per Year	-
		Protector		Power Fuse	Yes
				Safety Circuit	Yes
				IC Protector	No
				Dew Sensor	No
G-7	**Regulation**			Safety	CE
				Radiation	CE
				X-Radiation	PTB
G-8	**Temperature**			Operation	+5°C ~ +40°C
				Storage	-20°C ~ +60°C
G-9	**Operating Humidity**				Less than 80% RH
G-10	**On Screen Display (TV/VCR)**		Menu		Yes
			Menu	Type	Character
			Timer Rec Set		Yes
			VCR Setup		No
				Auto Repeat On/Off	Yes
				System Select	No
			Channel Setup		Yes
				Auto Tuning	Yes
				Ch Mapping	No
				Ch Tuning	Yes
				Ch Allocation	Yes
			TV Setup		Yes
				On/Off Timer Set	Yes
				Picture	Yes
				Audio	No
				NICAM Auto On/Off	Yes
			System Setup		Yes
				Clock Set	Yes (Calendar 24h)
				Language	Yes
				System Select	Yes
		G-CODE(or SHOWVIEW or PLUSCODE)No. Entry			No
		TV/VCR			Yes
		DVD			Yes
		Clock / Date			Yes
		CH/AV			Yes
		Tape Counter(Linear Counter)			Yes
		Tape Speed			Yes
		Sleep Time			Yes
		Stereo/Audio Output			Yes
				Bilingual	Yes
				NICAM	Yes
		Control Level	Volume		Yes
			Brightness/ Contrast / Sharpness / Color		Yes
			Tint		No
			Bass/Treble/Balance		No
			Manual Tracking		Yes
		Play/Stop/FF/Rew/Rec/OTR/T-Rec/Pause/Eject/Tape In (Symbol Mark)			Yes

TAPE REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the TV/DVD/VCR block from the main unit and the **Fig. 1** below can be seen. **(Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)**
2. Remove one screw of the Loading Motor from the insert hole for screw driver and remove the Loading Motor.
3. Rotate the Pinch Roller Cam in the direction of the arrow by hand to slacken the Video Tape. **(Refer to Fig. 2)**
4. Rotate the Clutch Ass'y either of the directions to wind the Video Tape in the Cassette Case.
5. Repeat the above step 3~4. Then take out the Video Cassette from the Deck Chassis. Be careful not to scratch on the tape.

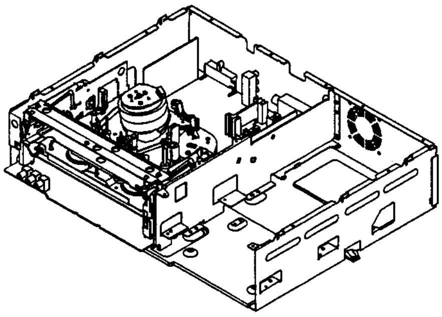


Fig. 1

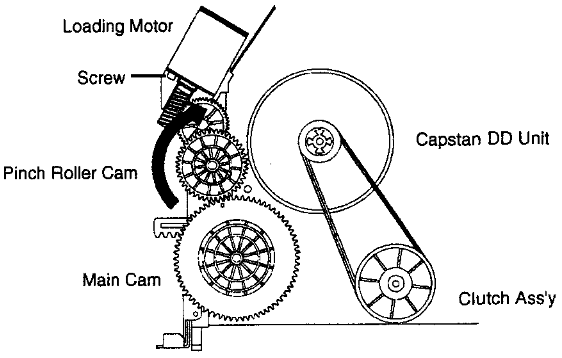


Fig. 2

DISC REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Back Cabinet, TV//DVD/VCR Block and Front Shield. **(Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)**
2. Slide the Rack Loading (White) toward the arrow direction by using a minus driver to release the lock. **(Refer to Fig. 1)**
3. Draw the Tray.

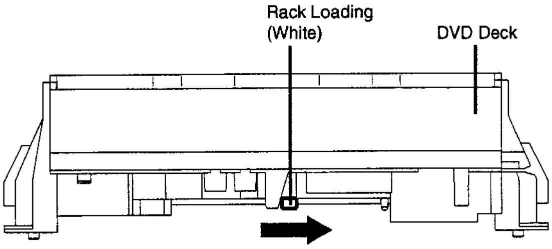


Fig. 1

PARENTAL CONTROL - RATING LEVEL

4 DIGIT PASSWORD CANCELLATION

If the stored 4 digit password in the Rating Level menu needs to be cancelled, please follow the steps below.

1. Turn Unit ON.
2. Press and hold the '7' key on the remote control unit.
3. Simultaneously press and hold the 'STOP' key on the front panel.
4. Hold both keys for more than 3 seconds.
5. The On Screen Display message 'PASSWORD CLEAR' will appear.
6. The 4 digit password has now been cleared

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GENERAL SPECIFICATIONS

		Auto Tracking/Manual Tracking			Yes
		Index			Yes
		Mute			Yes
		Hi-Fi			Yes
		Repeat			Yes
		PDC			No
		Zero Return			Yes
		DEW			No
G-11	**On Screen Display (DVD)**	Menu			Yes
			Menu Type		Character
			Language		Yes
				OSD Language	Yes
				Menu	Yes
				SubTitle	Yes
				Audio	Yes
			Picture		Yes
				TV Screen Size	Yes
				OSD Display On/Off	Yes
				JPEG Interval	Yes
				Select Files	Yes
			Sound		Yes
				DRC (Dynamic Range Control)	Yes
				dts Decode	No
				Output(5.1ch/ 2ch)	No
				Surround On/Off	No
				Center On/Off	No
				Sub Woofer On/Off	No
			Parental		Yes
				Password Lock/ Un Lock	Yes
				Rating Level	Yes
			Open		Yes
			Close		Yes
			No disc		Yes
			Reading		Yes
			Play		Yes
			Still/Pause		Yes
			Stop		Yes
			Prohibit Mark		Yes
			Step		Yes
			Skip(>>|)		Yes
			Skip(|<<)		Yes
			Random		Yes (CD, MP-3, JPEG)
			Repeat		Yes
			Slow+ ##		Yes
			Slow- ##		No
			Search+ ##		Yes
			Search- ##		Yes
			Jump		Yes
			Resume		Yes
			Title No.		Yes
			Chapter No.		Yes
			Track No.		Yes
			Time		Yes
			Sub Title No.		Yes
			Angle No.		Yes
			Vocal On/Off		No
			Audio No.		Yes
			Audio Stereo L/R		Yes (Video CD, SVCD)
			Zoom		Yes
			Marker No.		No
			Program Play Back		Yes (CD, MP-3, JPEG)
			Surround On/Off		No
			Screen Saver		No
			MP3,JPEG	Folder Name	Yes
				File Name	Yes
				File No	Yes
				Time	Yes
				Track No	Yes
G-12	**OSD Language**		TV/VCR		English, French, Spanish, German, Italian
			DVD		English, French, Spanish, German, Italian
G-13	**Clock,Timer and Timer Back-up**	Calendar			1990/1/1 ~ 2081/12/31
		Timer Events			8 Program/ 1 Month
		One Touch Recording Max Time			SP/LP:6 Hours
		OTPB Valid Time			-
		Sleep Timer	Max Time		120 Min
			Step		10 Min
		On/Off Timer	Program(On Timer / Off Timer)		1 Program

GENERAL SPECIFICATIONS

		Auto Shut Off	No Signal	15	Min
			No Operation	-	Min
		Timer Back-up (at Power Off Mode)		30	min.
G-14	**Remote Control Unit**	Unit		RC-GK	
		Glow in Dark Remocon			No
		Format		NEC	
		Custom Code		71-8E	
		Power Source	Voltage(D.C)	3V	
			UM size x pcs	UM-4 x 2 pcs	
		Total Keys		50	Keys
		Keys	Power/Standby	Yes	
			Eject	Yes	
			Open/Close	Yes	
			Display	Yes	
			1	Yes	
			2	Yes	
			3	Yes	
			4	Yes	
			5	Yes	
			6	Yes	
			7	Yes	
			8	Yes	
			9	Yes	
			0/AV	Yes	
			CH / Page Up	Yes	
			CH / Page Down	Yes	
			Cursor Up	Yes	
			Cursor Up / Green		No
			Cursor Down	Yes	
			Cursor Down / Yellow		No
			Cursor Left	Yes	
			Cursor Left / Red		No
			Cursor Right	Yes	
			Cursor Right / Cyan		No
			Enter / Text/Mix/TV	Yes	
			Volume Up	Yes	
			Volume Down	Yes	
			TV/VCR	Yes	
			DVD	Yes	
			DVD Menu	Yes	
			Setup/ Menu	Yes	
			Title / ATR	Yes	
			Return	Yes	
			Play Mode/ Quick View	Yes	
			Zoom / Reveal	Yes	
			Sleep	Yes	
			Mute	Yes	
			Repeat A-B/ Program	Yes	
			F/T/B / Cancel	Yes	
			Jump/ Hold/ SP/LP	Yes	
			Sub Page/ Index	Yes	
			Timer REC	Yes	
			Angle/ Counter Reset	Yes	
			Subtitle/ Zero Return	Yes	
			Audio	Yes	
			Rew	Yes	
			Play	Yes	
			F. Fwd	Yes	
			Tracking-/ Skip-	Yes	
			Stop	Yes	
			Tracking+/ Skip+	Yes	
			Rec/OTR	Yes	
			Slow Up	Yes	
			Pause / Still / Step	Yes	
G-15	**Features**	Auto Head Cleaning		Yes	
		Auto Tracking		Yes	
		HQ (VHS Standard High Quality)		Yes	
		Auto Power On, Auto Play, Auto Rewind, Auto Eject		Yes	
		VIDEO PLUS+(SHOWVIEW,G-CODE)			No
		CH Auto Set-Up/Auto Clock			No
		VPS/PDC			No
		Auto Tuning		Yes	
		Forward / Reverse Picture Search		Yes	
		TV Auto Shut off Function		Yes	
		Index Search		Yes	
		SQPB			No
		CM Skip(30sec x 6 Times)			No

GENERAL SPECIFICATIONS

		TV Monitor			No
		Choke Coil			No
		Protect of FBT Leak Circuit			No
		Zero Return			Yes
		Power On Memory			No
		T'Text			Yes
				Text type	UNI Text
		Parental Lock (DVD Only)			Yes
		Tray Lock			No
		Auto Stop (Pause, and Resume Stop after 5min.)			Yes
		VIDEO CD Playback			Yes
		SVCD Playback			Yes
				Overlay Graphics And Text	No
				Command List	No
				Entry Point Jump	No
		MP3 Playback			Yes
		WMA Playback			No
		JPEG Playback			Yes
		Digital Out		(Dolby Digital)	Yes
				(MPEG)	Yes
				(PCM)	Yes
				(DTS)	Yes
		Down Mix Out		(Dolby Digital)	Yes
				(DTS)	No
		TruSurround			No
		Screen Saver			No
		Audio DAC			192kHz / 24bit
G-16	**Accessories**	Owner's Manual		Language	German
				w/Guarantee Card	Yes
		Remote Control Unit			Yes
		Rod Antenna			No
				Poles	-
				Terminal	-
				w/300 ohm to 75 ohm Antenna Adapter	-
		Loop Antenna			No
				Terminal	-
		U/V Mixer			No
		DC Car Cord (Center+)			No
		Guarantee Card			No
		Warning Sheet			No
		Circuit Diagram			No
		Antenna Change Plug			No
		Service Facility List			No
		Important Safeguard			No
		Dew/AHC Caution Sheet			No
		AC Plug Adapter			No
		Information Sheet			No
		Quick Set-up Sheet			Yes
		Battery			Yes
				UM size x pcs	UM-4 x 2 pcs
		AC Cord			No
		AV Cord (2Pin-1Pin)			No
		21pin-RCA Cable			No
		Registration Card			No
		PTB Sheet			No
		Anti-Theft Sheet			No
		Euro Warranty Information Sheet			No
G-17	**Interface**	Switch	Front	Power(Standby)	Yes
				Channel Up	Yes
				Channel Down	Yes
				Volume Up	Yes
				Volume Down	Yes
				Play (VCR)	Yes
				Stop / Eject (VCR)	Yes
				F.FWD/Cue (VCR)	Yes
				Rew/Rev (VCR)	Yes
				REC/OTR (VCR)	Yes
				Play (DVD)	Yes
				Stop (DVD)	Yes
				Skip+ / Search+ (DVD)	Yes
				Skip- / Search- (DVD)	Yes
				Open/Close (DVD)	Yes
				Input Select	No
				Main Power SW	Yes
		Indicator		Standby	Yes (Red)
				REC/OTR	Yes (Red)
				T-REC	Yes (Red)

GENERAL SPECIFICATIONS

				TV/VCR	No
				DVD	No
		Terminals	Front	Video Input	RCA x1
				Audio Input	RCA x2
				Other Terminal	Headphone (Stereo & Mono, 3.5mm)
			Rear	Video Input	No
				Audio Input	No
				Video Output	No
				Audio Output	RCA x2
				Digital Audio Output	Coaxial (DVD Only)
				Euro Scart	1-SCART
				VHF/UHF Antenna Input	DIN type
				AC Inlet	No
G-18	**Set Size**			Approx. W x D x H (mm)	573 x 483 x 517
G-19	**Weight**			Net (Approx.)	26.0kg (57.3lbs)
				Gross (Approx.)	29.5kg (65.0lbs)
G-20	**Carton**		Master Carton		No
				Content	-
				Material	-
				Dimensions W x D x H(mm)	-
				Description of Origin	-
			Gift Box		Yes
				Material	Double/Full Color
				Dimensions W x D x H(mm)	658 x 575 x 625
				Design	As per Buyer's
				Description of Origin	No
			Drop Test	Natural Dropping At	1 Corner / 3 Edges / 6 Surfaces
				Height (cm)	31
			Container Stuffing(40' container)		216 Sets
G-21	**Material**		Cabinet	Front	PS 94HB
				Rear	PS 94HB
				Jack Panel	-
			PCB	Non-Halogen	Yes
				Eyelet	Yes
G-22	**Environment**		Pb Free	Lead-free Solder	No
				Other	No
			Cd Free		No

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: BACK CABINET (Refer to Fig. 1-1)

1. Remove the 6 screws (1).
2. Remove the Back Cabinet in the direction of arrow.

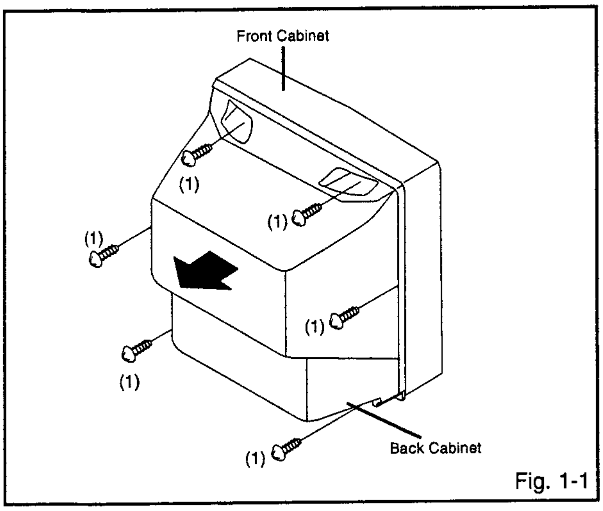

Front Cabinet
(1)
(1)
(1)
(1)
(1)
(1)
Back Cabinet

Fig. 1-1

1-2: CRT PCB (Refer to Fig. 1-2)

CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE. BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.

1. Remove the Anode Cap. (Refer to REMOVAL OF ANODE CAP)
2. Disconnect the following connectors: (CP801 and CP853B).
3. Remove the CRT PCB in the direction of arrow.

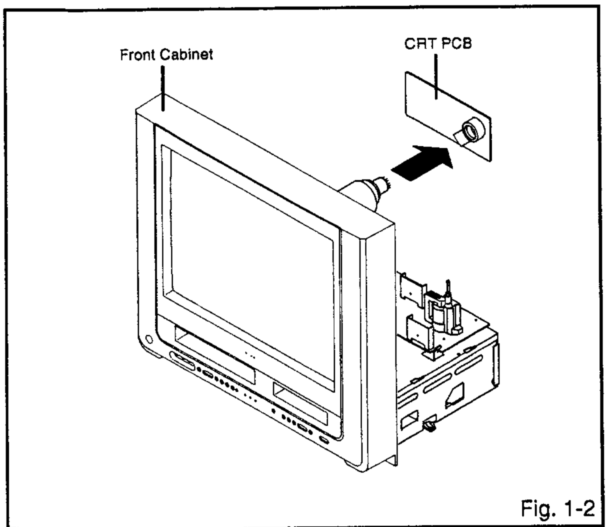

Front Cabinet
CRT PCB

Fig. 1-2

1-3: POWER SW PCB (Refer to Fig. 1-3)

1. Remove the 2 screws (1).
2. Disconnect the following connector: (CP1704).
3. Remove the Power SW PCB in the direction of arrow.

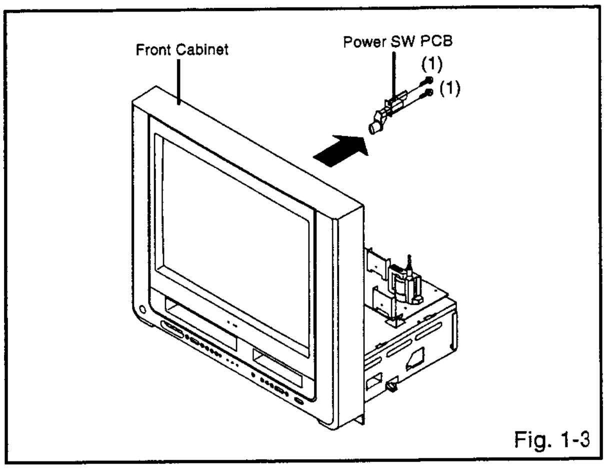

Front Cabinet
Power SW PCB
(1)
(1)

Fig. 1-3

1-4: TV/DVD/VCR BLOCK (Refer to Fig. 1-4)

1. Remove the 2 screws (1).
2. Disconnect the following connectors: (CP352, CP402 and CP1702).
3. Remove the TV/DVD/VCR Block in the direction of arrow.

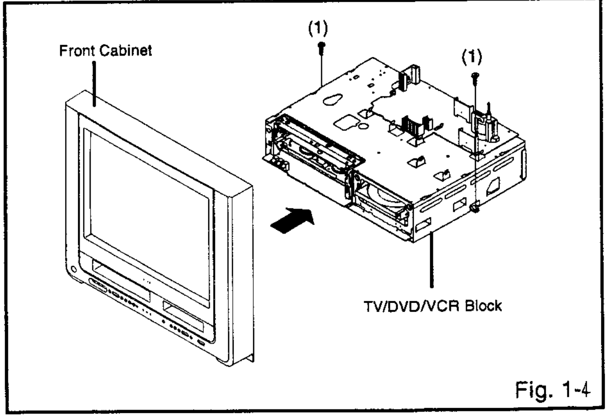

Front Cabinet
(1)
(1)
TV/DVD/VCR Block

Fig. 1-4

DISASSEMBLY INSTRUCTIONS

1-5: MAIN PCB (Refer to Fig. 1-5)

1. Remove the 2 screws (1).
2. Remove the 4 screws (2).
3. Disconnect the following connectors:
   (CP3601, CP3602 and CP3603).
4. Remove the Main PCB in the direction of arrow.

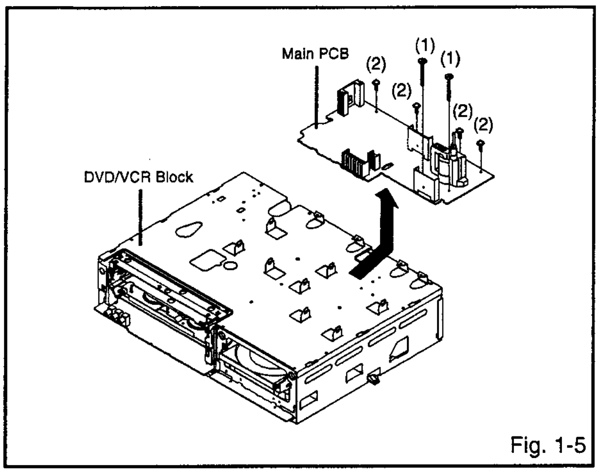

Main PCB
(1)
(1)
(2)
(2)
(2)
(2)
DVD/VCR Block

Fig. 1-5

1-6: TOP SHIELD (Refer to Fig. 1-6)

1. Remove the 11 screws (1).
2. Remove the Top Shield in the direction of arrow.

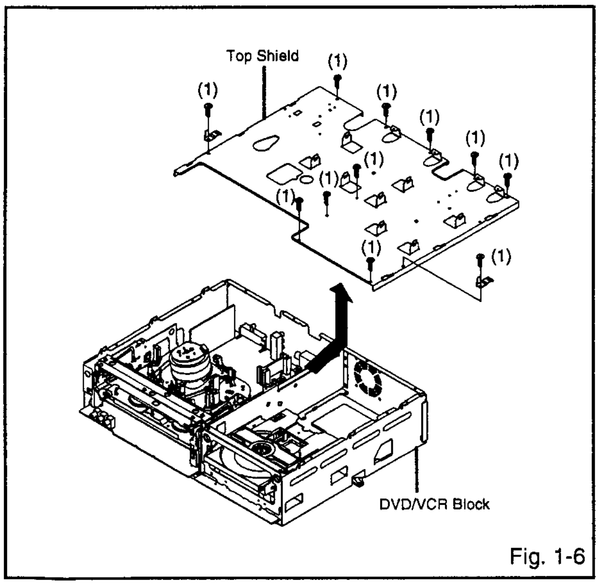

Top Shield
(1)
(1)
(1)
(1)
(1)
(1)
(1)
(1)
(1)
(1)
(1)
DVD/VCR Block

Fig. 1-6

1-7: DVD BLOCK (Refer to Fig. 1-7)

1. Remove the 2 screws (1).
2. Remove the VCR Holder.
3. Remove the 4 screws (2).
4. Disconnect the following connectors:
   (CP8001 and CP8002).
5. Remove the DVD Block in the direction of arrow.

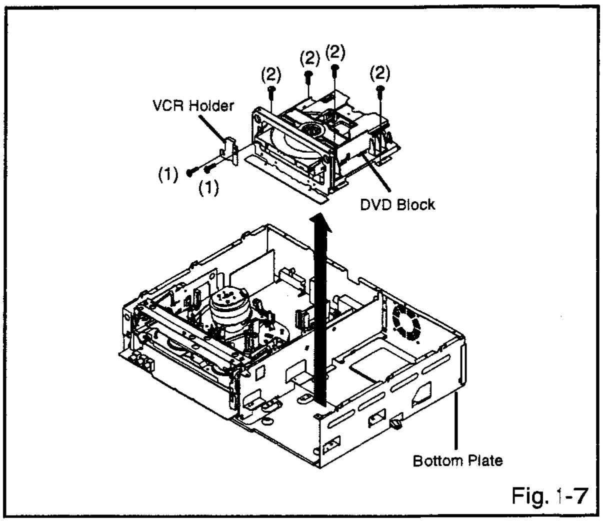

(2)
(2)
(2)
(2)
VCR Holder
(1)
(1)
DVD Block
Bottom Plate

Fig. 1-7

DISASSEMBLY INSTRUCTIONS

1-8: OPERATION PCB/DVD PCB/DVD DECK (Refer to Fig. 1-8)

1. Make the short circuit on the position as shown **Fig. 1-8** using a soldering. If you remove the DVD Deck with no soldering, the Laser may be damaged.
2. Remove the 2 screws (1).
3. Remove the Operation PCB in the direction of arrow (A).
4. Remove the 2 screws (2).
5. Remove the Front Shield in the direction of arrow (B).
6. Disconnect the following connectors:
   (CP2001, CP2301 and CP2302).
7. Remove the 4 screws (3).
8. Remove the DVD Deck in the direction of arrow (C).
9. Remove the 4 screws (4).
10. Remove the DVD PCB in the direction of arrow (D).

NOTE

When the installation of the DVD Deck, remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD PCB connector.

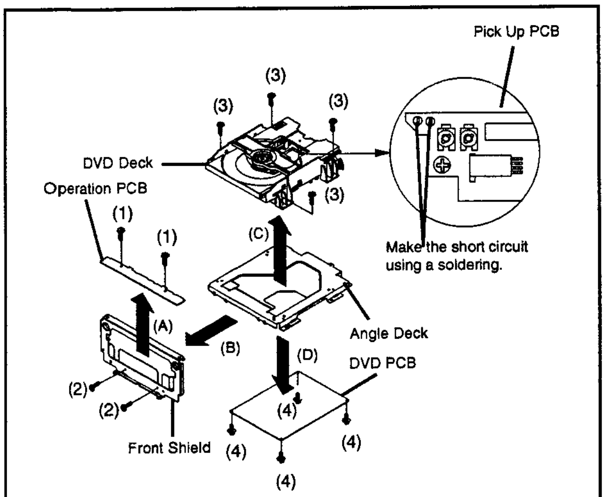

Pick Up PCB
(3)
(3)
(3)
DVD Deck
Operation PCB
(1)
(1)
(C)
(3)
Make the short circuit using a soldering.
(A)
(B)
(D)
Angle Deck
DVD PCB
(2)
(2)
(4)
Front Shield
(4)
(4)
(4)

Fig. 1-8

1-9: VCR DECK (Refer to Fig. 1-9)

NOTE

Do not remove the cable at the FE Head section. The FE Head may be damaged if you remove the cable by force.

1. Move the Cassette Holder Ass'y to the back side.
2. Remove the screw (1).
3. Remove the FE Head.
4. Remove the 3 screws (2).
5. Remove the screw (3).
6. Disconnect the following connectors:
   (CP1001, CP4501 and CP4505).
7. Remove the AC Head Cover and VCR Deck in the direction of arrow.

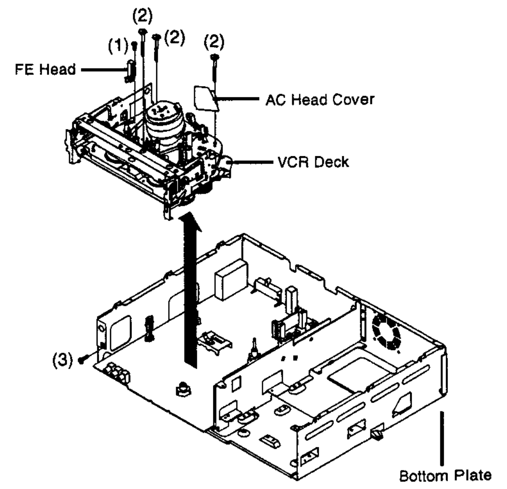

(2)
(1)
(2)
(2)
FE Head
AC Head Cover
VCR Deck
(3)
Bottom Plate

Fig. 1-9

1-10: VCR PCB (Refer to Fig. 1-10)

1. Remove the 4 screws (1).
2. Remove the AV Jack Shield.
3. Remove the VCR PCB in the direction of arrow.

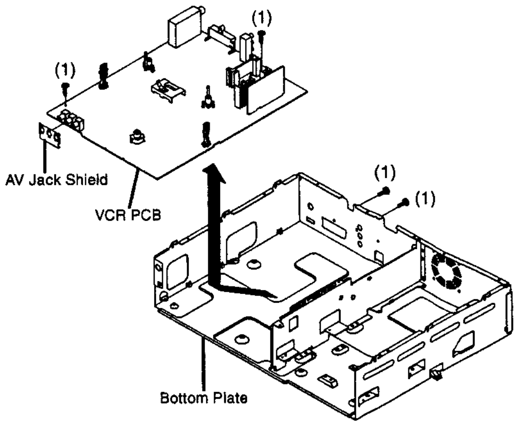

(1)
(1)
AV Jack Shield
VCR PCB
(1)
(1)
Bottom Plate

Fig. 1-10

DISASSEMBLY INSTRUCTIONS

2. REMOVAL OF VCR DECK PARTS

2-1: TOP BRACKET (Refer to Fig. 2-1)

1. Extend the 2 supports (1).
2. Slide the 2 supports (2) and remove the Top Bracket.

NOTE

1. After the installation of the Top Bracket, bend the support (1) so that the Top Bracket is fixed.

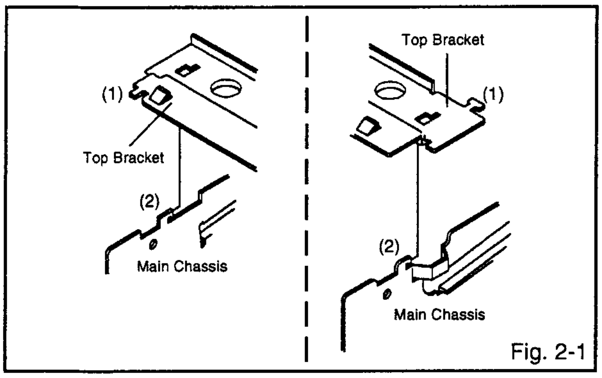

(1)
Top Bracket
(2)
Main Chassis
Top Bracket
(1)
(2)
Main Chassis

Fig. 2-1

2-2: CASSETTE HOLDER ASS'Y (Refer to Fig. 2-2)

1. Move the Cassette Holder Ass'y to the front side.
2. Push the Locker R to remove the Cassette Side R.
3. Remove the Cassette Side L.

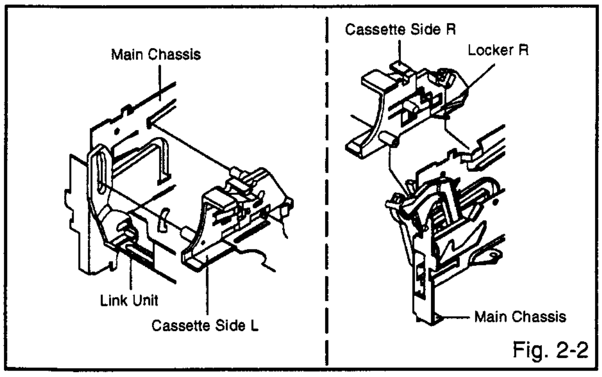

Main Chassis
Link Unit
Cassette Side L
Cassette Side R
Locker R
Main Chassis

Fig. 2-2

2-3: CASSETTE SIDE L/R (Refer to Fig. 2-3-A)

1. Remove the Locker Spring.
2. Unlock the 4 supports (1) and then remove the Cassette Side L/R.
3. Unlock the support (2) and then remove the Locker R.

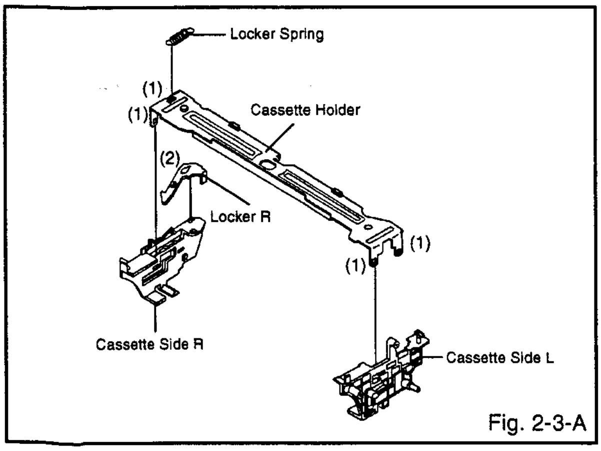

Locker Spring
(1)
(1)
Cassette Holder
(2)
Locker R
(1)
(1)
Cassette Side R
Cassette Side L

Fig. 2-3-A

NOTE

1. In case of the Locker R installation, check if the one position of Fig.2-3-B are correctly locked.
2. When you install the Cassette Side R, be sure to move the Locker R after installing.

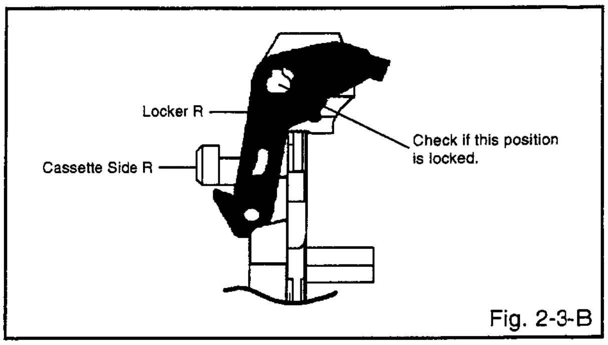

Locker R
Cassette Side R
Check if this position is locked.

Fig. 2-3-B

2-4: LINK UNIT (Refer to Fig. 2-4)

1. Set the Link Unit to the Eject position.
2. Unlock the support (1).
3. Remove the (A) side of the Link Unit first, then remove the (B) side.

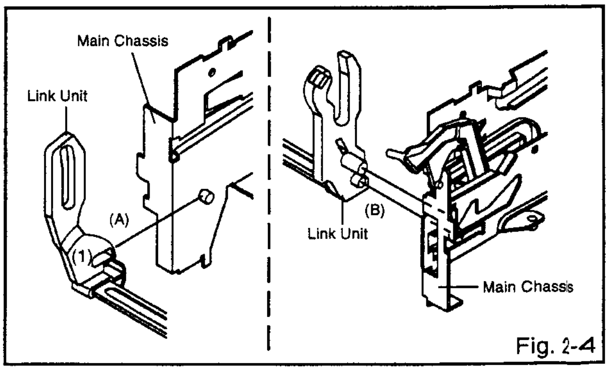

Main Chassis
Link Unit
(A)
(1)
(B)
Link Unit
Main Chassis

Fig. 2-4

2-5: LINK LEVER/FLAP LEVER (Refer to Fig. 2-5)

1. Extend the support (1).
2. Remove the Link Lever.
3. Remove the Flap Lever.

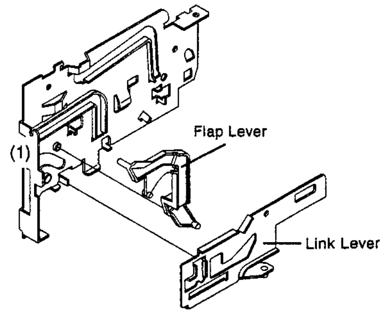
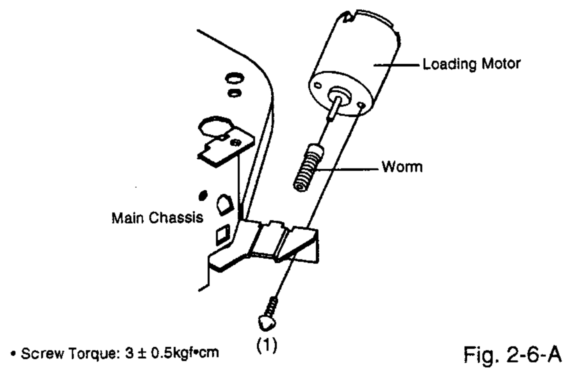

Flap Lever
(1)
Link Lever

Fig. 2-5

DISASSEMBLY INSTRUCTIONS

2-6: LOADING MOTOR/WORM (Refer to Fig. 2-6-A)

1. Remove the screw (1).
2. Remove the Loading Motor.
3. Remove the Worm.


Loading Motor
Worm
Main Chassis
(1)

• Screw Torque: 3 ± 0.5kgf•cm

Fig. 2-6-A

NOTE

1. In case of the Worm installation, check if the value of the Fig. 2-6-B is correct.
2. In case of the Loading Motor installation, slacken the wire as shown Fig. 2-6-C.
3. When installing the wires between Capstan DD Unit and Loading Motor, connect them correctly as shown Fig. 2-6-D.

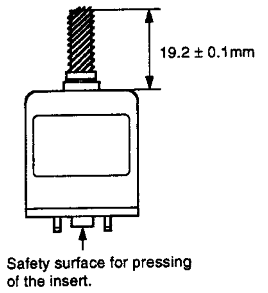

19.2 ± 0.1mm
Safety surface for pressing of the insert.

Fig. 2-6-B

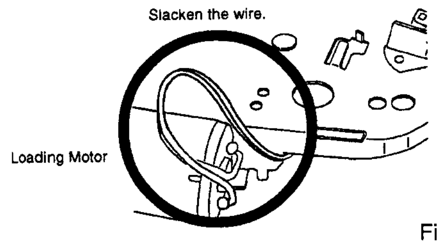

Slacken the wire.
Loading Motor

Fig. 2-6-C

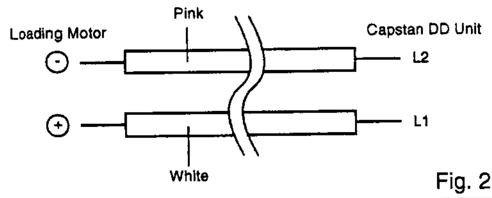

Loading Motor
Pink
Capstan DD Unit
⊖
L2
⊕
L1
White

Fig. 2-6-D

2-7: TENSION ASS'Y (Refer to Fig. 2-7-B)

1. Turn the Pinch Roller Cam clockwise so that the Tension Holder hook is set to the position of Fig. 2-7-A to move the Tension Arm Ass'y.
2. Remove the Tension Spring.
3. Unlock the 2 supports (1) and remove the Tension Band.
4. Unlock the support (2) and remove the Tension Arm Ass'y.
5. Unlock the support (3) and remove the Tension Connect.
6. Float the hook (4) and turn it clockwise then remove the Tension Holder.

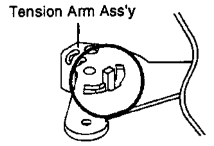

Tension Arm Ass'y

Fig. 2-7-A

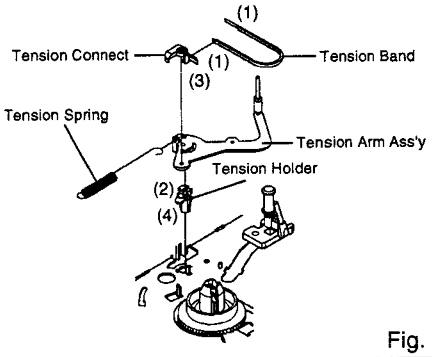

(1)
Tension Connect
(1)
Tension Band
(3)
Tension Spring
Tension Arm Ass'y
Tension Holder
(2)
(4)

Fig. 2-7-B

NOTE

1. In case of the Tension Band installation, note the direction of the installation. **(Refer to Fig. 2-7-C)**
2. In case of the Tension Band installation, install correctly as Fig. 2-7-D.
3. In case of the Tension Connect installation, install as the circled section of Fig. 2-7-E.

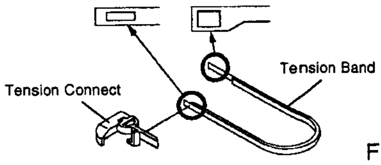

Tension Band
Tension Connect

Fig. 2-7-C

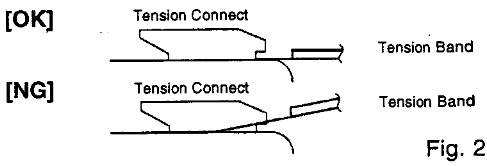

[OK]
Tension Connect
Tension Band
[NG]
Tension Connect
Tension Band

Fig. 2-7-D

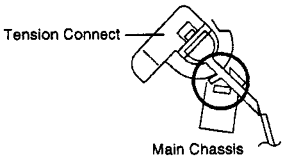

Tension Connect
Main Chassis

Fig. 2-7-E

DISASSEMBLY INSTRUCTIONS

2-8: T BRAKE ARM/T BRAKE BAND (Refer to Fig. 2-8-A)

1. Remove the T Brake Spring.
2. Turn the T Brake Arm clockwise and bend the hook section to remove it.
3. Unlock the 2 supports (1) and remove the T Brake Band.

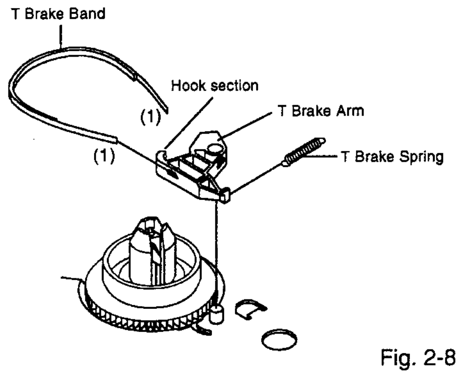

T Brake Band
Hook section
(1)
T Brake Arm
(1)
T Brake Spring

Fig. 2-8-A

NOTE

1. In case of the T Brake Band installation, install correctly as Fig. 2-8-B.

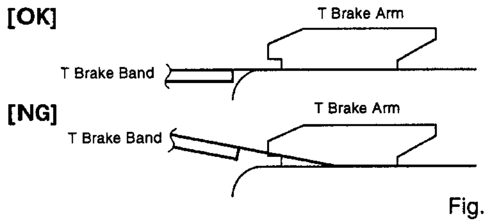

[OK]
T Brake Arm
T Brake Band
[NG]
T Brake Arm
T Brake Band

Fig. 2-8-B

2-9: S REEL/T REEL/IDLER ARM ASS'Y/IDLER GEAR (Refer to Fig. 2-9-A)

1. Remove the S Reel and T Reel.
2. Remove the 2 Polyslider Washers (1).
3. Remove the Idler Arm Ass'y and Idler Gear.

NOTE

1. Take care not to damage the gears of the S Reel and T Reel.
2. The Polyslider Washer may be remained on the back of the reel.
3. Take care not to damage the shaft.
4. Do not touch the section "A" of S Reel and T Reel. (Use gloves.) **(Refer to Fig. 2-9-A)** Do not adhere the stains on it.
5. When you install the reel, clean the shaft and grease it (FG-84M). (If you do not grease, noise may be heard in FF/REW mode.)
6. After installing the reel, adjust the height of the reel. **(Refer to MECHANICAL ADJUSTMENT)**

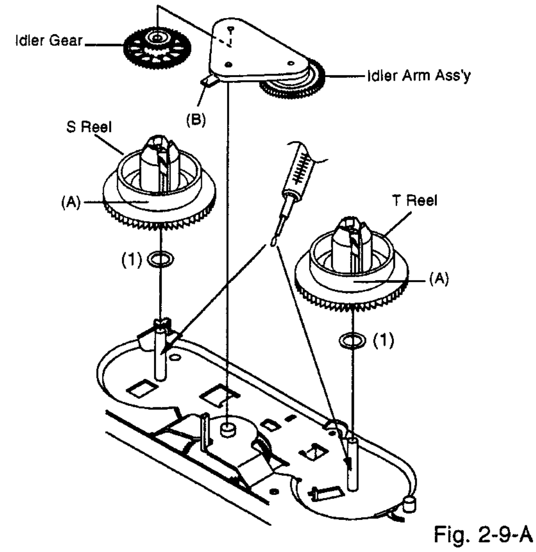

Idler Gear
Idler Arm Ass'y
(B)
S Reel
(A)
T Reel
(1)
(A)
(1)

Fig. 2-9-A

NOTE

1. In case of the S Reel and T Reel installation, check if the correct parts are installed. **(Refer to Fig. 2-9-B)**
2. In case of the Idler Arm Ass'y installation, install correctly as Fig. 2-9-C. And also set it so that the section "B" of Fig. 2-9-A is placed under the Main Chassis tab.

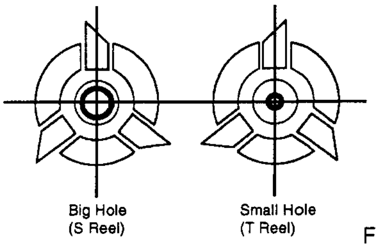

Big Hole
(S Reel)
Small Hole
(T Reel)

Fig. 2-9-B

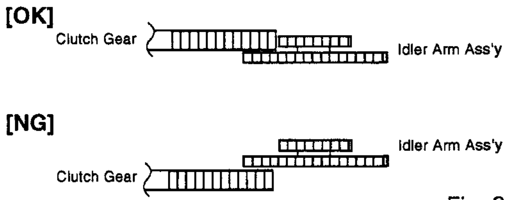

[OK]
Clutch Gear
Idler Arm Ass'y
[NG]
Idler Arm Ass'y
Clutch Gear

Fig. 2-9-C

DISASSEMBLY INSTRUCTIONS

2-10: CASSETTE OPENER/PINCH ROLLER BLOCK/ P5 ARM ASS'Y (Refer to Fig. 2-10-A)

1. Unlock the support (1) and remove the Cassette Opener.
2. Remove the Pinch Roller Block and P5 Arm Ass'y.

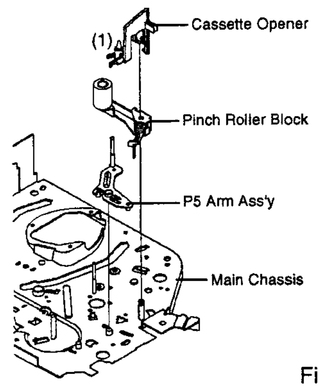

(1)
Cassette Opener
Pinch Roller Block
P5 Arm Ass'y
Main Chassis

Fig. 2-10-A

NOTE

1. Do not touch the Pinch Roller. (Use gloves.)
2. In case of the Pinch Roller Block and the Pinch Roller Cam installation, install correctly as Fig. 2-10-B.

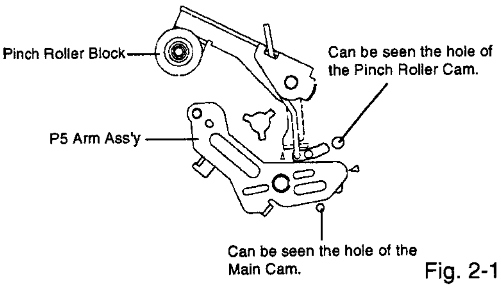

Pinch Roller Block
Can be seen the hole of the Pinch Roller Cam.
P5 Arm Ass'y
Can be seen the hole of the Main Cam.

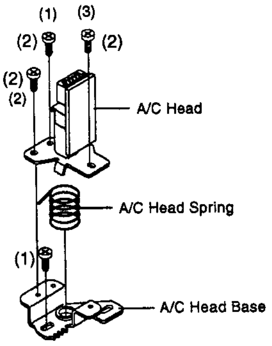
Fig. 2-10-B

2-11: A/C HEAD (Refer to Fig. 2-11-A)

1. Remove the screw (1).
2. Remove the A/C Head Base.
3. Remove the 3 screws (2).
4. Remove the A/C Head and A/C Head Spring.

NOTE

1. Do not touch the A/C Head. (Use gloves.)
2. When you install the A/C Head Spring, install as shown in Fig. 2-11-B.
3. When you install the A/C Head, tighten the screw (1) first, then tighten the screw (2), finally tighten the screw (3).


(1)
(3)
(2)
(2)
(2)
(2)
A/C Head
A/C Head Spring
(1)
A/C Head Base

• Screw Torque: 5 ± 0.5kgf•cm

Fig. 2-11-A

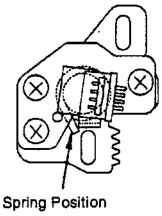
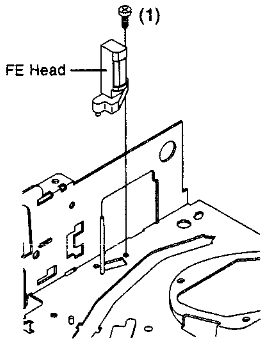

Spring Position

Fig. 2-11-B

2-12: FE HEAD (RECORDER ONLY) (Refer to Fig. 2-12)

1. Remove the screw (1).
2. Remove the FE Head.



• Screw Torque: 5 ± 0.5kgf•cm
• The FE Head is not installed on the Video Cassette Player.

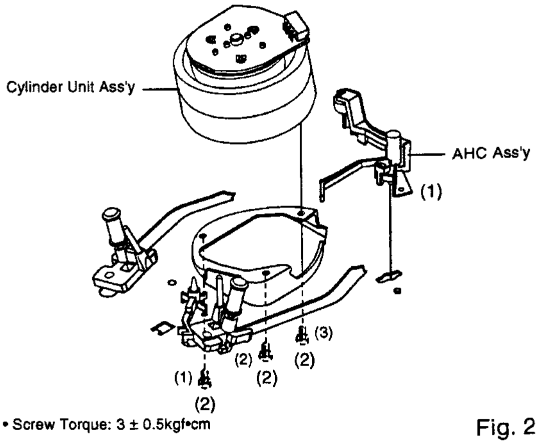
Fig. 2-12

2-13: AHC ASS'Y/CYLINDER UNIT ASS'Y (Refer to Fig. 2-13)

1. Unlock the support (1) and remove the AHC Ass'y.
2. Disconnect the following connector: (CD2001)
3. Remove the 3 screws (2).
4. Remove the Cylinder Unit Ass'y.

NOTE

1. When you install the Cylinder Unit Ass'y, tighten the screws from (1) to (3) in order while pulling the Ass'y toward the left front direction.


Cylinder Unit Ass'y
AHC Ass'y
(1)
(3)
(2)
(2)
(1)
(2)
(2)

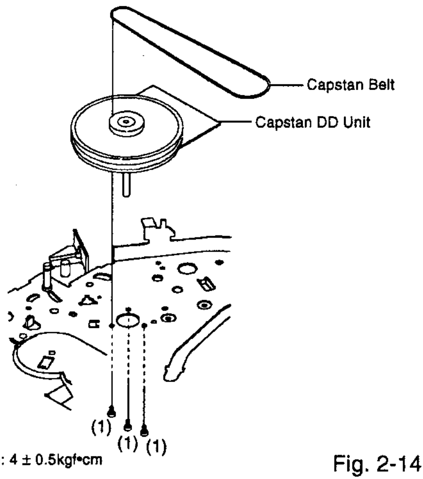
• Screw Torque: 3 ± 0.5kgf•cm

Fig. 2-13

DISASSEMBLY INSTRUCTIONS

2-14: CAPSTAN DD UNIT (Refer to Fig. 2-14-A)

1. Remove the Capstan Belt.
2. Remove the 3 screws (1).
3. Remove the Capstan DD Unit.

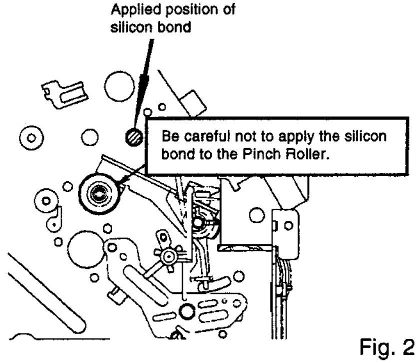

Capstan Belt
Capstan DD Unit
(1)
(1)
(1)

• Screw Torque: 4 ± 0.5kgf•cm

Fig. 2-14-A

NOTE

1. In case of the Capstan DD Unit installation, apply the silicon bond (TSE3843-W) on the position Fig. 2-14-B correctly. (If no silicon bond applied, abnormal noise will be heard on the deck operation.)
   (Refer to Fig. 2-14-B, C)


Applied position of
silicon bond

Be careful not to apply the silicon bond to the Pinch Roller.

Fig. 2-14-B

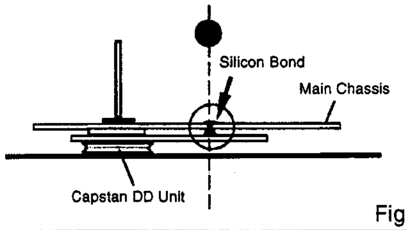

Silicon Bond
Main Chassis
Capstan DD Unit

Fig. 2-14-C

2-15: MAIN CAM/PINCH ROLLER CAM/JOINT GEAR (Refer to Fig. 2-15-A)

1. Remove the E-Ring (1), then remove the Main Cam.
2. Remove the E-Ring (2), then remove the Pinch Roller Cam and Joint Gear.

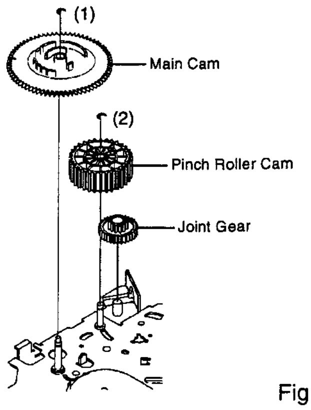

(1)
Main Cam
(2)
Pinch Roller Cam
Joint Gear

Fig. 2-15-A

NOTE

1. In case of the Pinch Roller Cam and Main Cam installation, install them as the circled section of Fig. 2-15-B so that the each markers are met. **(Refer to Fig. 2-15-B)**

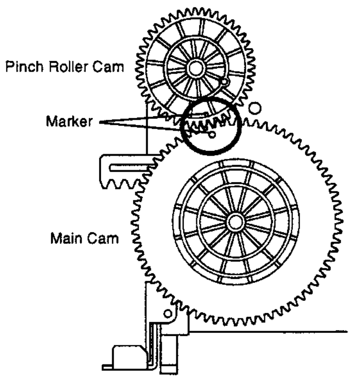

Pinch Roller Cam
Marker
Main Cam

Fig. 2-15-B

2-16: LOADING GEAR S/T UNIT (Refer to Fig. 2-16-A)

1. Remove the E-Ring (1) and remove the Main Loading Gear.
2. Remove the Main Rod, Tension Lever, Loading Arm S Unit and Loading Arm T Unit.

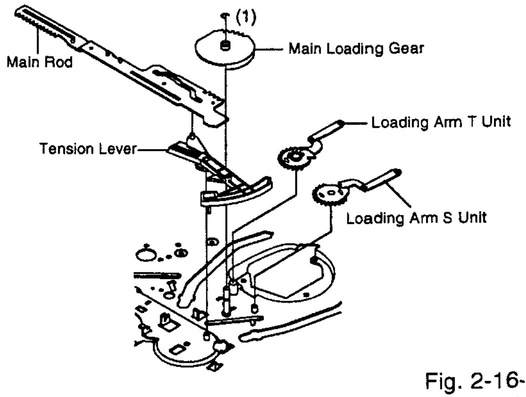

(1)
Main Loading Gear
Main Rod
Loading Arm T Unit
Tension Lever
Loading Arm S Unit

Fig. 2-16-A

DISASSEMBLY INSTRUCTIONS

NOTE

1. When you install the Loading Arm S Unit, Loading Arm T Unit and Main Loading Gear, align each marker. **(Refer to Fig. 2-16-B)**

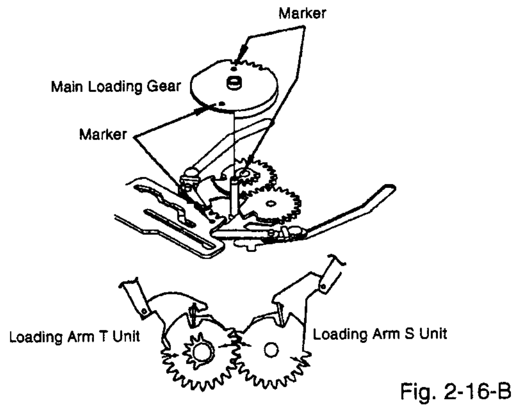

Marker
Main Loading Gear
Marker
Loading Arm T Unit
Loading Arm S Unit

Fig. 2-16-B

2-17: CLUTCH ASS'Y/RING SPRING/CLUTCH LEVER/ CLUTCH GEAR (Refer to Fig. 2-17-A)

1. Remove the Polyslider Washer (1).
2. Remove the Clutch Ass'y and Ring Spring.
3. Remove the Clutch Lever.
4. Remove the Coupling Gear, Coupling Spring and Clutch Gear.

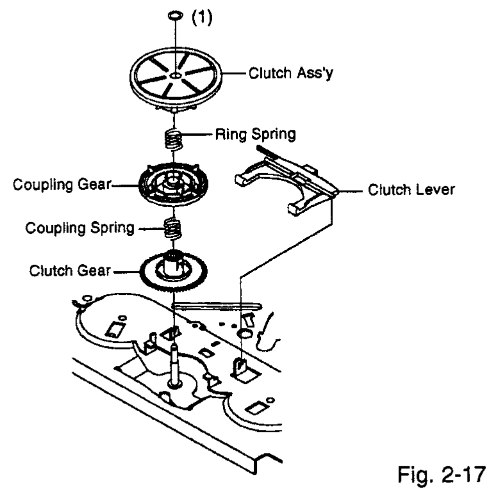

(1)
Clutch Ass'y
Ring Spring
Coupling Gear
Clutch Lever
Coupling Spring
Clutch Gear

Fig. 2-17-A

NOTE

1. In case of the Clutch Ass'y installation, install it with inserting the spring of the Clutch Ass'y into the dent of the Coupling Gear. **(Refer to Fig. 2-17-B)**

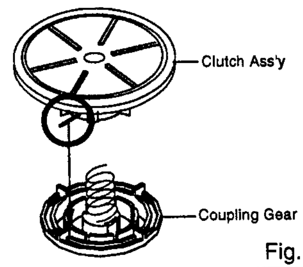

Clutch Ass'y
Coupling Gear

Fig. 2-17-B

2-18: CASSETTE GUIDE POST/INCLINED BASE S/T UNIT/P4 CAP/LED REFLECTOR (Refer to Fig. 2-18-A)

1. Remove the P4 Cap.
2. Unlock the support (1) and remove the Cassette Guide Post.
3. Remove the Inclined Base S/T Unit.
4. Remove the screw (2).
5. Remove the LED Reflector.

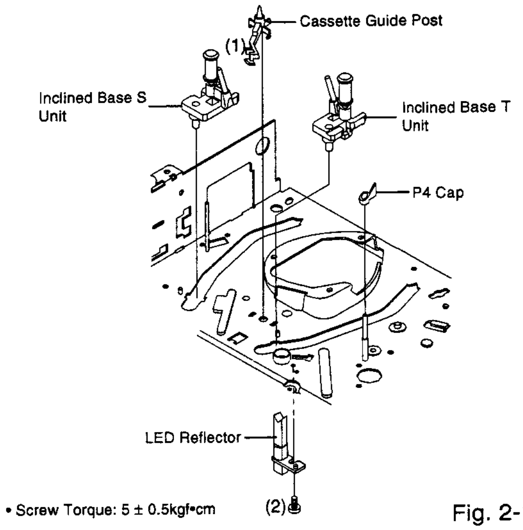

Cassette Guide Post
(1)
Inclined Base S Unit
Inclined Base T Unit
P4 Cap
LED Reflector
• Screw Torque: 5 ± 0.5kgf•cm
(2)

Fig. 2-18-A

NOTE

1. Do not touch the roller of Guide Roller.
2. In case of the P4 Cap installation, install it with parallel for "A" and "B" of Fig. 2-18-B.
3. In case of the Cassette Guide Post installation, install correctly as the circled section of Fig. 2-18-C.

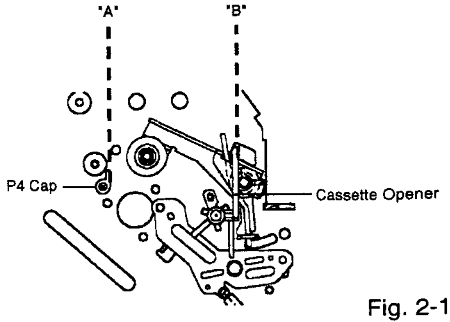

"A"
"B"
P4 Cap
Cassette Opener

Fig. 2-18B

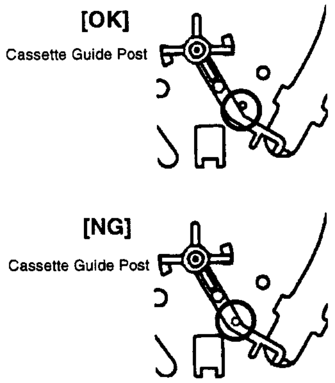

[OK]
Cassette Guide Post
[NG]
Cassette Guide Post

Fig. 2-18-C

DISASSEMBLY INSTRUCTIONS

3. REMOVAL OF DVD DECK PARTS

NOTE

1. Do not disassemble the DVD DECK PARTS except listed parts here. Minute adjustments are needed if the disassemble is done. If the repair is needed except listed parts, replace the DVD MECHA ASS'Y.

3-1: TRAY (Refer to Fig. 3-1-A)

1. Set the Tray opened. **(Refer to the DISC REMOVAL METHOD AT NO POWER SUPPLY)**
2. Unlock the support ① and remove the Tray.

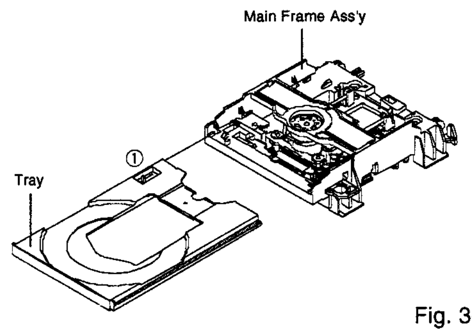

Main Frame Ass'y
①
Tray

Fig. 3-1-A

NOTE

1. In case of the Tray installation, install them as the circled section of Fig. 3-1-B so that the each markers are met.

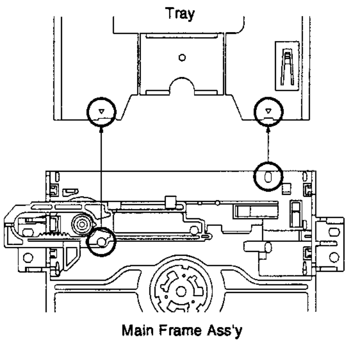

Tray
Main Frame Ass'y

Fig. 3-1-B

3-2: MAIN CHASSIS ASS'Y (Refer to Fig. 3-2-A)

1. Remove the Main Chassis Ass'y from the Insulator (R).
2. Unlock the support ①.
3. Remove the Main Chassis Ass'y.

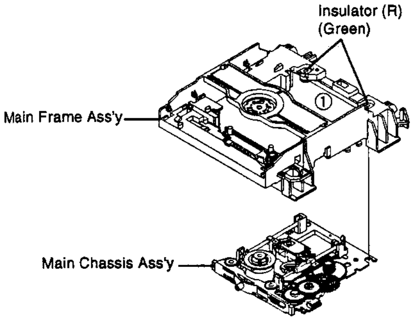

Insulator (R)
(Green)
①
Main Frame Ass'y
Main Chassis Ass'y

Fig. 3-2-A

NOTE

1. In case of the Main Chassis Ass'y, install it from (1) to (6) in order. **(Refer to Fig. 3-2-B)**

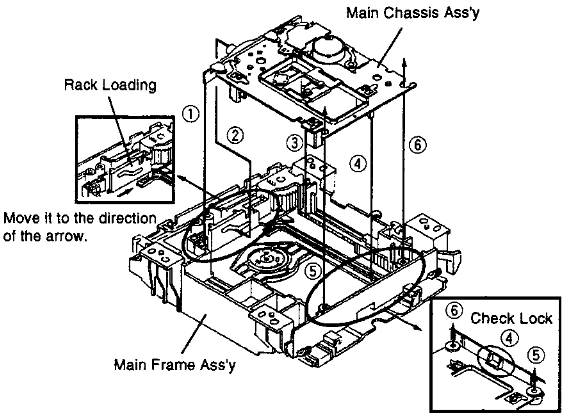

Main Chassis Ass'y
Rack Loading
①
②
③
④
⑥
Move it to the direction of the arrow.
⑤
Main Frame Ass'y
⑥ Check Lock
④
⑤

Fig. 3-2-B

3-3: RACK LOADING/MAIN GEAR/ RACK LOADING SPRING (Refer to Fig. 3-3)

1. Press down the catcher ① and slide the Rack Loading.
2. Remove the Rack Loading, Rack Loading Spring and Main Gear.
3. Remove the Rack Loading, Rack L Spring and Main Gear.

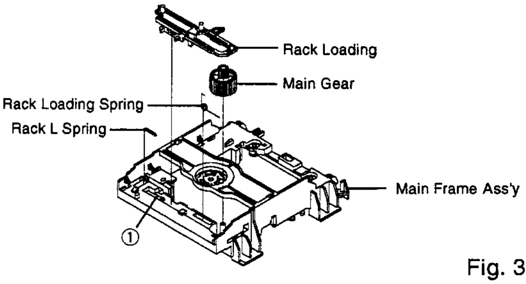

Rack Loading
Main Gear
Rack Loading Spring
Rack L Spring
Main Frame Ass'y
①

Fig. 3-3

3-4: CLAMPER ASS'Y/INSULATOR(R)/LEVER SWITCH (Refer to Fig. 3-4-A)

1. Remove the screw ①.
2. Remove the Lever Switch.
3. Remove the 2 Insulator (R).
4. Press the Clamper and rotate the Clamper Plate clockwise, then unlock the 3 supports ②.
5. Remove the Clamper Plate, Clamper Magnet and Clamper.

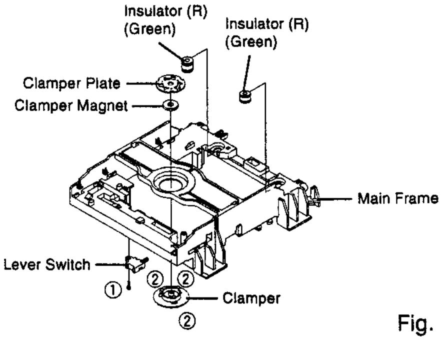

Insulator (R)
(Green)
Insulator (R)
(Green)
Clamper Plate
Clamper Magnet
Main Frame
Lever Switch
①
②
②
Clamper
②

Fig. 3-4-A

DISASSEMBLY INSTRUCTIONS

NOTE

1. When installing the Clamper Magnet, install it with the green face up.
2. When installing the wire of the Lever Switch, install it correctly as Fig. 3-4-B.
3. When installing the Lever Switch, install it correctly as Fig. 3-4-C.
4. In case of the Lever Switch installation, hook the wire on the Main Frame as shown Fig. 3-4-D.

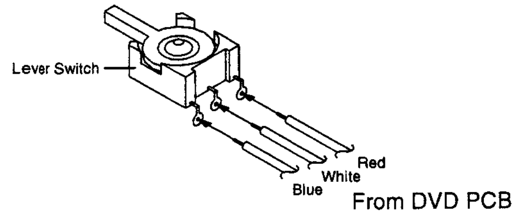

Lever Switch
Red
White
Blue
From DVD PCB

Fig. 3-4-B

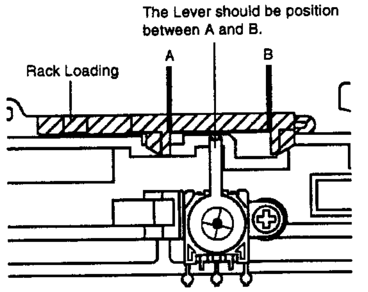

The Lever should be position between A and B.
Rack Loading
A
B

Fig. 3-4-C

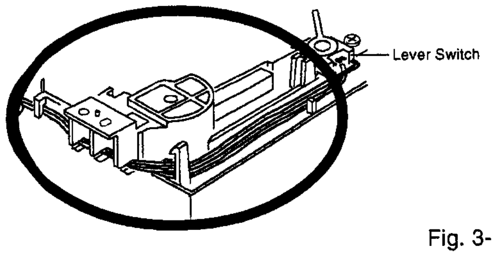

Lever Switch

Fig. 3-4-D

3-5: TRAVERSE HOLDER/INSULATOR (F) (Refer to Fig. 3-5-A)

1. Remove the Traverse Holder.
2. Remove the 2 Insulator (F).

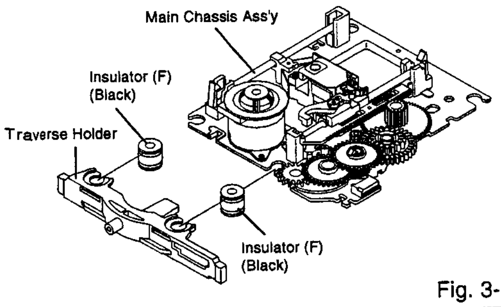

Main Chassis Ass'y
Insulator (F)
(Black)
Traverse Holder
Insulator (F)
(Black)

Fig. 3-5-A

NOTE

1. After the installing of the Traverse Holder, check if the wire is like Fig. 3-5-B.

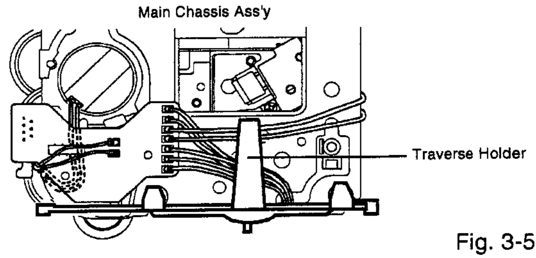
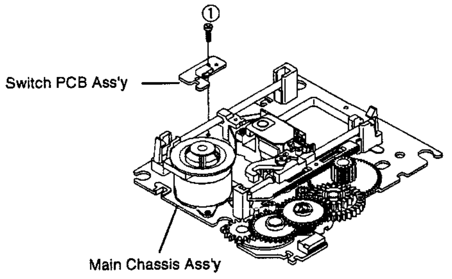

Main Chassis Ass'y
Traverse Holder

Fig. 3-5-B

3-6: SWITCH PCB ASS'Y (Refer to Fig. 3-6-A)

1. Remove the screw ①.
2. Remove the Switch PCB Ass'y.


①
Switch PCB Ass'y
Main Chassis Ass'y

• Screw Torque: 4 ± 0.5kgf•cm

Fig. 3-6-A

NOTE

1. When installing the wire of the Switch PCB, install it correctly as Fig. 3-6-B.

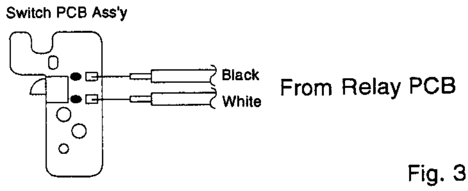
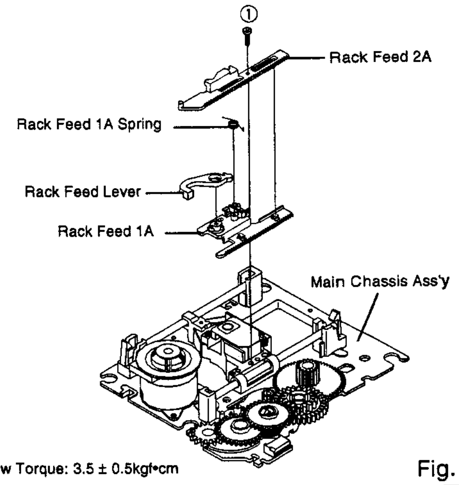

Switch PCB Ass'y
Black
White
From Relay PCB

Fig. 3-6-B

3-7: RACK FEED ASS'Y (Refer to Fig. 3-7-A)

1. Remove the screw ①.
2. Remove the Rack Feed 1A Spring, Rack Feed 1A/2A and Rack Feed Lever.


①
Rack Feed 2A
Rack Feed 1A Spring
Rack Feed Lever
Rack Feed 1A
Main Chassis Ass'y

• Screw Torque: 3.5 ± 0.5kgf•cm

Fig. 3-7-A

DISASSEMBLY INSTRUCTIONS

NOTE

1. After the assembly of the Rack Feed, check if the Rack Feed 1/2 is moving smoothly. **(Refer to Fig. 3-7-B)**
2. In case of the Rack Feed Ass'y installation, install correctly as Fig. 3-7-C.

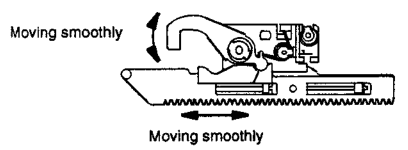

Moving smoothly
Moving smoothly

Fig. 3-7-B

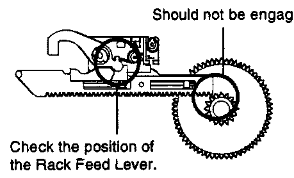
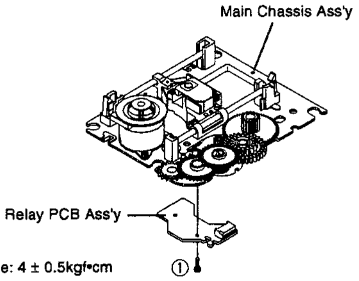

Should not be engaged.
Check the position of the Rack Feed Lever.

Fig. 3-7-C

3-8: RELAY PCB ASS'Y (Refer to Fig. 3-8-A)

1. Remove the screw ①.
2. Remove the Relay PCB Ass'y.


Main Chassis Ass'y
Relay PCB Ass'y
①

• Screw Torque: 4 ± 0.5kgf•cm

Fig. 3-8-A

NOTE

1. When installing the wire of the Relay PCB, install it correctly as Fig. 3-8-B.

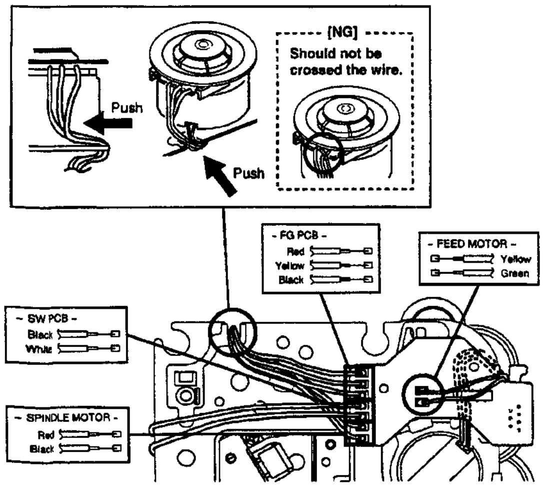

[NG]
Should not be crossed the wire.
Push
Push
- FG PCB -
Red
Yellow
Black
- FEED MOTOR -
Yellow
Green
- SW PCB -
Black
White
- SPINDLE MOTOR -
Red
Black

Fig. 3-8-B

3-9: GEAR (Refer to Fig. 3-9-A)

1. Unlock the support ①.
2. Remove the Middle Gear 1/2/3, Idler Gear and Feed Gear.

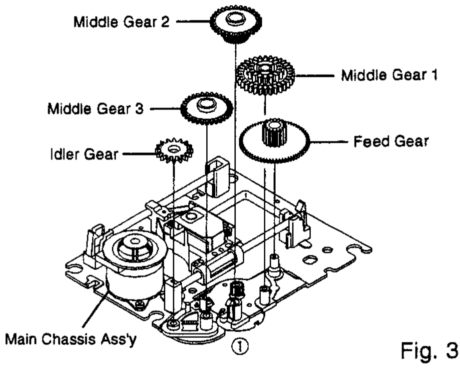

Middle Gear 2
Middle Gear 1
Middle Gear 3
Feed Gear
Idler Gear
Main Chassis Ass'y
①

Fig. 3-9-A

NOTE

1. In case of the Idler Gear installation, install correctly as Fig. 3-9-B.
2. When installing the Middle Gear 2, check if the Middle Gear 2 is locked correctly as Fig. 3-9-C.

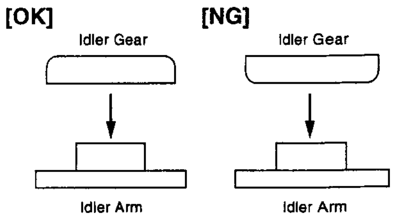

[OK]
[NG]
Idler Gear
Idler Gear
Idler Arm
Idler Arm

Fig. 3-9-B

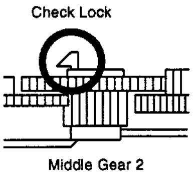

Check Lock
Middle Gear 2

Fig. 3-9-C

3-10: IDLER ARM 2 (Refer to Fig. 3-10-A)

1. Remove the Idler Arm 2.

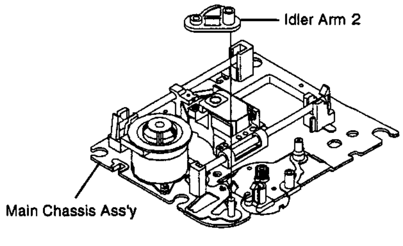
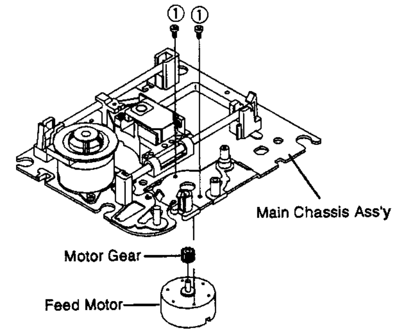

Idler Arm 2
Main Chassis Ass'y

Fig. 3-10-A

DISASSEMBLY INSTRUCTIONS

3-11: FEED MOTOR (Refer to Fig. 3-11-A)

1. Remove the 2 screws ①.
2. Remove the Feed Motor.
3. Remove the Motor Gear.

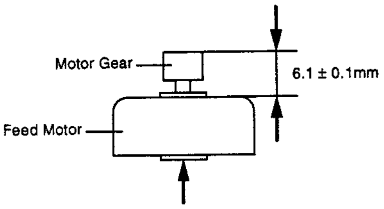

①
①
Main Chassis Ass'y
Motor Gear
Feed Motor

• Screw Torque: 1 ± 0.5kgf•cm

Fig. 3-11-A

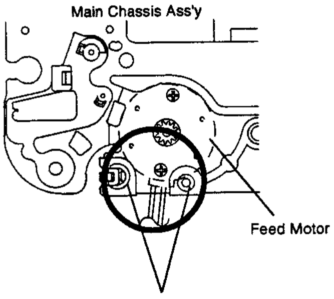
NOTE

1. In case of the Motor Gear installation, check if the value of the Fig. 3-11-B is correct.
2. When installing the Feed Motor, check if the cable is positioned as Fig. 3-11-C.


Motor Gear
Feed Motor
6.1 ± 0.1mm

Safety surface for pressing of the insert.

Fig. 3-11-B


Main Chassis Ass'y
Feed Motor

Pass the cable between 2 pins.

Fig. 3-11-C

DISASSEMBLY INSTRUCTIONS

4. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

- After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
- Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL

1. Follow the steps as follows to discharge the Anode Cap. **(Refer to Fig. 4-1.)**
   Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground.
   While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.
   A cracking noise will be heard as the voltage is discharged.

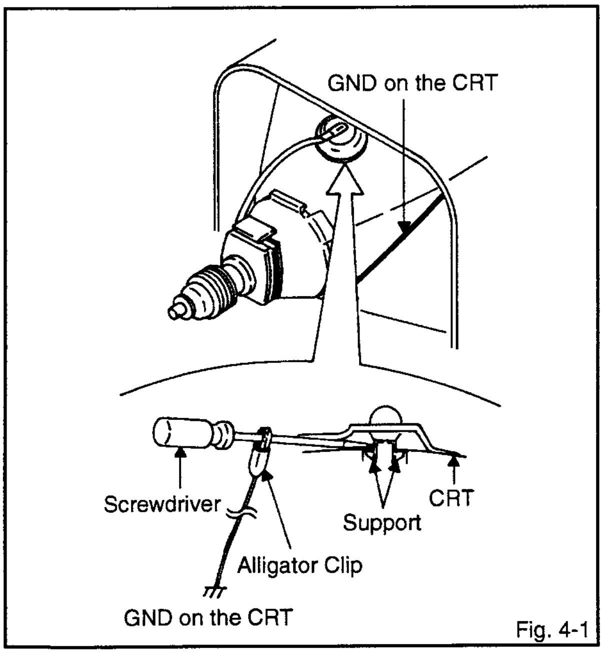


Fig. 4-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support. **(Refer to Fig. 4-2.)**

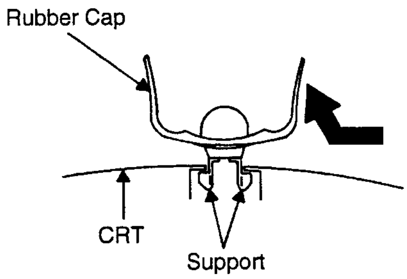


Fig. 4-2

3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

1. Clean the spot where the cap was located with a small amount of alcohol. **(Refer to Fig. 4-3.)**

NOTE

Confirm that there is no dirt, dust, etc. at the spot where the cap was located.

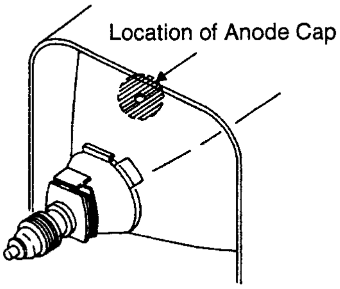


Fig. 4-3

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. **(Refer to Fig. 4-4.)**

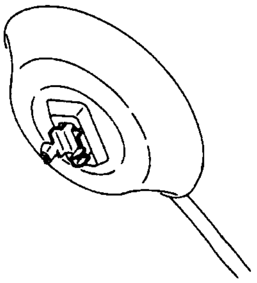


Fig. 4-4

4. Insert one end of the Anode Support into the anode button, then the other as shown in **Fig. 4-5.**

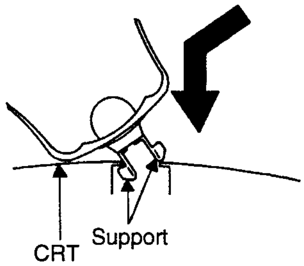


Fig. 4-5

5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

DISASSEMBLY INSTRUCTIONS

5. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. **(Refer to Fig. 5-1.)**

   NOTE

   Masking is carried out on all the parts located within 10 mm distance from IC leads.

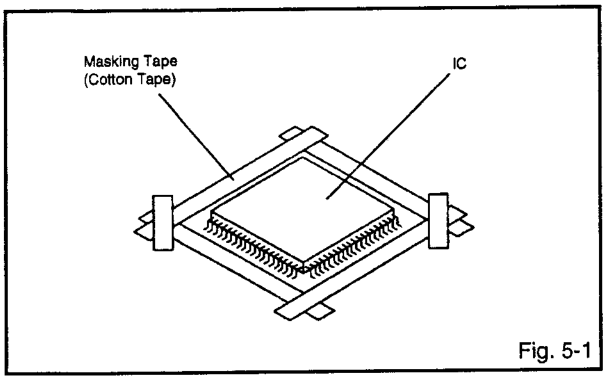

Masking Tape
(Cotton Tape)
IC

Fig. 5-1

2. Heat the IC leads using a blower type IC desoldering machine. **(Refer to Fig. 5-2.)**

   NOTE

   Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.

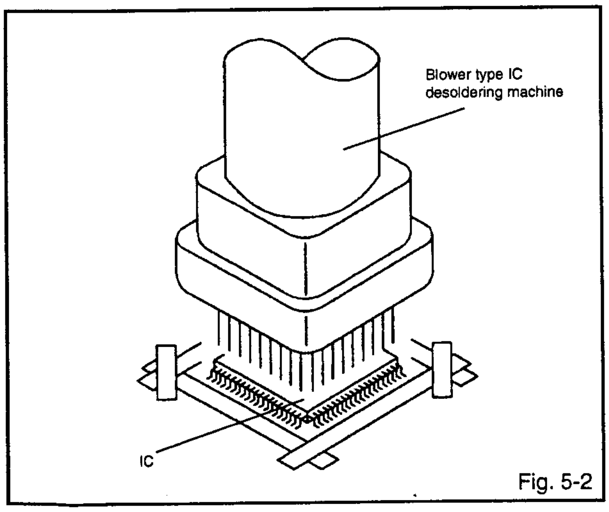

Blower type IC
desoldering machine
IC

Fig. 5-2

3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. **(Refer to Fig. 5-3.)**

   NOTE

   Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.

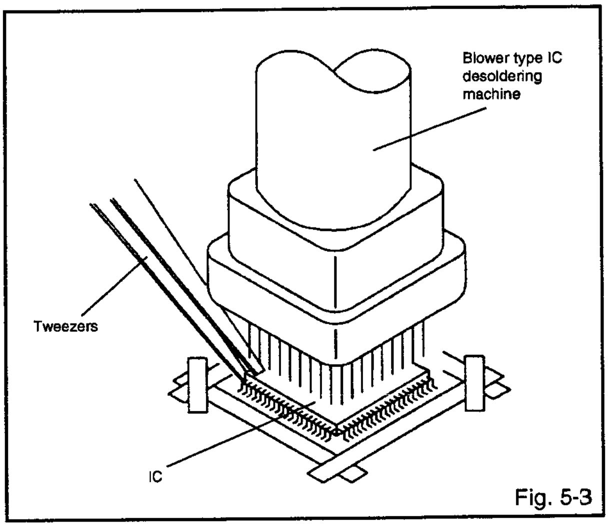

Blower type IC
desoldering
machine
Tweezers
IC

Fig. 5-3

4. Peel off the Masking Tape.

5. Absorb the solder left on the pattern using the Braided Shield Wire. **(Refer to Fig. 5-4.)**

   NOTE

   Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.

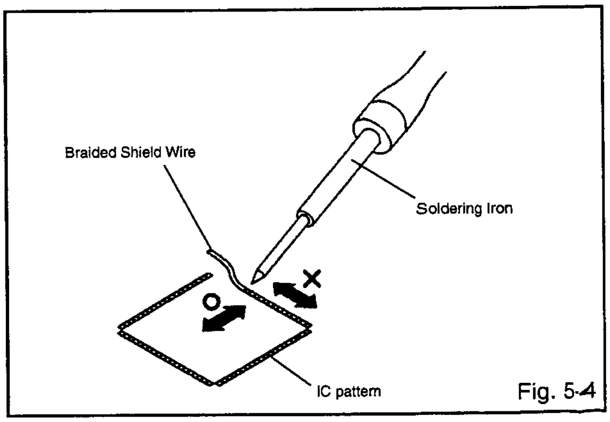

Braided Shield Wire
Soldering Iron
O
X
IC pattern

Fig. 5-4

DISASSEMBLY INSTRUCTIONS

INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. **(Refer to Fig. 5-5.)**

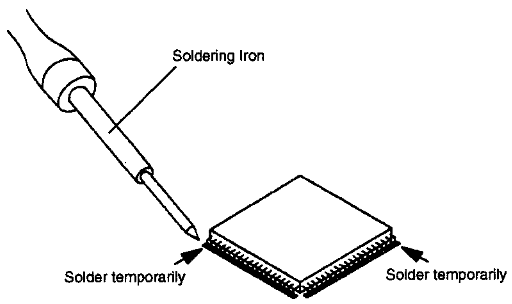

Soldering Iron
Solder temporarily
Solder temporarily

Fig. 5-5

2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 5-6.)**

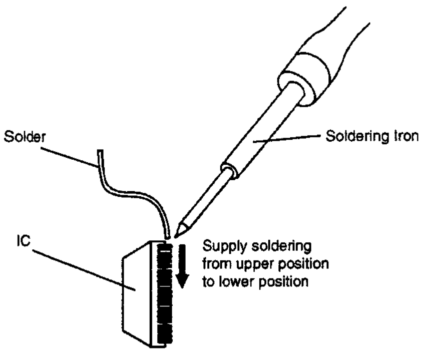

Solder
Soldering Iron
IC
Supply soldering
from upper position
to lower position

Fig. 5-6

3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 5-7.)**

   NOTE

   Do not absorb the solder to excess.

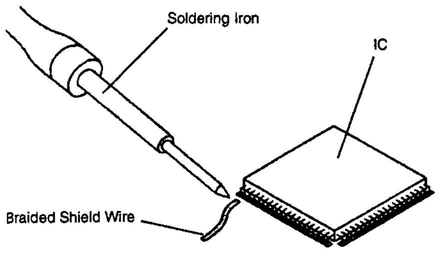

Soldering Iron
IC
Braided Shield Wire

Fig. 5-7

4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. **(Refer to Fig. 5-8.)**

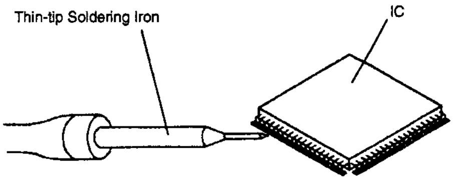

Thin-tip Soldering Iron
IC

Fig. 5-8

5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass.
   Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

   NOTE

   When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, be always sure to replace the IC in this case.

KEY TO ABBREVIATIONS

A	A/C	Audio/Control
	ACC	Automatic Color Control
	AE	Audio Erase
	AFC	Automatic Frequency Control
	AFT	Automatic Fine Tuning
	AFT DET	Automatic Fine Tuning Detect
	AGC	Automatic Gain Control
	AMP	Amplifier
	ANT	Antenna
	A.PB	Audio Playback
	APC	Automatic Phase Control
	ASS'Y	Assembly
	AT	All Time
	AUTO	Automatic
	A/V	Audio/Video
B	BGP	Burst Gate Pulse
	BOT	Beginning of Tape
	BPF	Bandpass Filter
	BRAKE SOL	Brake Solenoid
	BUFF	Buffer
	B/W	Black and White
C	C	Capacitance, Collector
	CASE	Cassette
	CAP	Capstan
	CARR	Carrier
	CH	Channel
	CLK	Clock
	CLOCK (SY-SE)	Clock (Syscon to Servo)
	COMB	Combination, Comb Filter
	CONV	Converter
	CPM	Capstan Motor
	CTL	Control
	CYL	Cylinder
	CYL-M	Cylinder-Motor
	CYL SENS	Cylinder-Sensor
D	DATA (SY-CE)	Data (Syscon to Servo)
	dB	Decibel
	DC	Direct Current
	DD Unit	Direct Drive Motor Unit
	DEMOD	Demodulator
	DET	Detector
	DEV	Deviation
E	E	Emitter
	EF	Emitter Follower
	EMPH	Emphasis
	ENC	Encoder
	ENV	Envelope
	EOT	End of Tape
	EQ	Equalizer
	EXT	External
F	F	Fuse
	FBC	Feed Back Clamp
	FE	Full Erase
	FF	Fast Forward, Flipflop
	FG	Frequency Generator
	FL SW	Front Loading Switch
	FM	Frequency Modulation
	FSC	Frequency Sub Carrier
	FWD	Forward
G	GEN	Generator
	GND	Ground
H	H.P.F	High Pass Filter
	H.SW	Head Switch
	Hz	Hertz
I	IC	Integrated Circuit
	IF	Intermediate Frequency
	IND	Indicator
	INV	Inverter
K	KIL	Killer
L	L	Left
	LED	Light Emitting Diode
	LIMIT AMP	Limiter Amplifier
	LM, LDM	Loading Motor
	LP	Long Play
	L.P.F	Low Pass Filter
	LUMI.	Luminance
M	M	Motor
	MAX	Maximum
	MINI	Minimum
	MIX	Mixer, mixing
	MM	Monostable Multivibrator
	MOD	Modulator, Modulation
	MPX	Multiplexer, Multiplex
	MS SW	Mecha State Switch
N	NC	Non Connection
	NR	Noise Reduction
O	OSC	Oscillator
	OPE	Operation
P	PB	Playback
	PB CTL	Playback Control
	PB-C	Playback-Chrominance
	PB-Y	Playback-Luminance
	PCB	Printed Circuit Board
	P. CON	Power Control
	PD	Phase Detector
	PG	Pulse Generator
	P-P	Peak-to Peak
R	R	Right
	REC	Recording
	REC-C	Recording-Chrominance
	REC-Y	Recording-Luminance
	REEL BRK	Reel Brake
	REEL S	Reel Sensor
	REF	Reference
	REG	Regulated, Regulator
	REW	Rewind
	REV, RVS	Reverse
	RF	Radio Frequency
	RMC	Remote Control
	RY	Relay
S	S. CLK	Serial Clock
	S. COM	Sensor Common
	S. DATA	Serial Data
	SEG	Segment
	SEL	Select, Selector
	SENS	Sensor
	SER	Search Mode
	SI	Serial Input
	SIF	Sound Intermediate Frequency
	SO	Serial Output
	SOL	Solenoid
	SP	Standard Play
	STB	Serial Strobe
	SW	Switch

KEY TO ABBREVIATIONS

S	**SYNC**	Synchronization
	SYNC SEP	Sync Separator, Separation
T	**TR**	Transistor
	TRAC	Tracking
	TRICK PB	Trick Playback
	TP	Test Point
U	**UNREG**	Unregulated
V	**V**	Volt
	VCO	Voltage Controlled Oscillator
	VIF	Video Intermediate Frequency
	VP	Vertical Pulse, Voltage Display
	V.PB	Video Playback
	VR	Variable Resistor
	V.REC	Video Recording
	VSF	Visual Search Fast Forward
	VSR	Visual Search Rewind
	VSS	Voltage Super Source
	V-SYNC	Vertical-Synchronization
	VT	Voltage Tuning
X	**X'TAL**	Crystal
Y	**Y/C**	Luminance/Chrominance

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.

To enter to the SERVICE MODE function, press and hold both buttons simultaneously on the main unit or on the main unit and on the remote control for more than a standard time (second).

The both pressing of set key and remote control key will not be possible if clock has been set. To reset clock, either unplug AC cord and allow at least 30 minutes before Power On or alternatively, discharge backup capacitor.

Set Key	Remocon Key	Standard Time (seconds)	Operations
VOL. (-) MIN	1	2	Initialization of the factory. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the clock setting, the channel setting, the POWER ON total hours, and PLAY/REC total hours.
VOL. (-) MIN	2	2	Horizontal position adjustment of OSD. NOTE: Also can be adjusted by using the Adjustment MENU. Refer to the "ELECTRICAL ADJUSTMENT" (OSD HORIZONTAL).
VOL. (-) MIN	3	2	Adjust the PG SHIFTER automatically. Refer to the "ELECTRICAL ADJUSTMENT" (PG SHIFTER).
VOL. (-) MIN	4	2	Adjust the PG SHIFTER manually. Refer to the "ELECTRICAL ADJUSTMENT" (PG SHIFTER).
VOL. (-) MIN	5	2	Adjusting of the Tracking to the center position. NOTE: Also can be adjusted by pressing the ATR button for more than 2 seconds during PLAY.
VOL. (-) MIN	6	2	POWER ON total hours and PLAY/REC total hours are displayed on the screen. Refer to the "PREVENTIVE CHECKS AND SERVICE INTERVALS" (CONFIRMATION OF USING HOURS). Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "NOTE FOR THE REPLACING OF MEMORY IC".
VOL. (-) MIN	7	2	Releasing of PROTECTION PASSWORD.
VOL. (-) MIN	8	2	Writing of EEPROM initial data. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	9	2	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).
REC/OTR	4	2	Initialization of the factory on DVD. NOTE: Do not use this for the normal servicing. The function will only work without the setting of DVD disc at DVD mode. While pressing the Remocon Key for more than the Standard Time, press the Set Key simultaneously.
STOP (DVD)	7	3	Releasing of PARENTAL LOCK. Refer to the ìPARENTAL CONTROL - RATING LEVELî. NOTE: The function will only work without the setting of DVD disc at DVD mode.

Method	Operations
Press the ATR button on the remote control for more than 2 seconds during PLAY.	Adjusting of the Tracking to the center position. Refer to the ìMECHANICAL ADJUSTMENTî (GUIDE ROLLER) and ìELECTRICAL ADJUSTMENTî (PG SHIFTER).
Make the short circuit between the test point of SERVICE and the GND.	The BOT, EOT, and the Reel Sensor do not work and the VCR deck can be operated without a cassette tape. Refer to the ìPREPARATION FOR SERVICINGî

PREVENTIVE CHECKS AND SERVICE INTERVALS

The following standard table depends on environmental conditions and usage.
Parts replacing time does not mean the life span for individual parts.
Also, long term storage or misuse may cause transformation and aging of rubber parts.
The following list means standard hours, so the checking hours depends on the conditions.

Time / Parts Name	500 hours	1,000 hours	1,500 hours	2,000 hours	2,500 hours	Notes
Audio Control Head	■	■	■	●	●	Clean those parts in contact with the tape.
Full Erase Head (Recorder only)	■	■	■	●	●	
Capstan Belt		●	●	●	●	Clean the rubber, and parts which the rubber touches.
Pinch Roller	■	●	●	●	●	
Capstan DD Unit		●	●	●	●	
Loading Motor					●	
Tension Band		●	●	●	●	
T Brake Band		●	●	●	●	
Clutch Ass'y		●	●	●	●	
Idler Arm Ass'y		●	●	●	●	
Capstan Shaft	■	■	■	■	■	
Tape Running Guide Post	■	■	■	■	■	Replace when rolling becomes abnormal.
Cylinder Unit	■	●	●	●	●	Clean the Head

■ : Clean
● : Check it and if necessary, replace it.

CONFIRMATION OF HOURS USED

POWER ON total hours and PLAY/REC total hours can be checked on the screen.
Total hours are displayed in 16 system of notation.

NOTE: If you set a factory initialization, the total hours is reset to "0".
Initial Data setting will not be possible if clock has been set. To reset clock, either unplug AC cord and allow at least 30 minutes before Power On or alternatively, discharge backup capacitor.

1. Set the VOLUME to minimum.
2. Press both VOL. DOWN button on the set and the Channel button **(6)** on the remote control for more than 2 seconds.
3. After the confirmation of using hours, turn off the power.

```
INIT  0B4  12
POWER ON  0010
PLAY/REC  0003
```

INIT 0B4 12 — Initial setting content of MEMORY IC.
POWER ON 0010 — POWER ON total hours.
PLAY/REC 0003 — PLAY/REC total hours.

(16 x 16 x 16 x thousands digit value) + (16 x 16 x hundreds digit value) + (16 x tens digit value) + (ones digit value)

PREVENTIVE CHECKS AND SERVICE INTERVALS

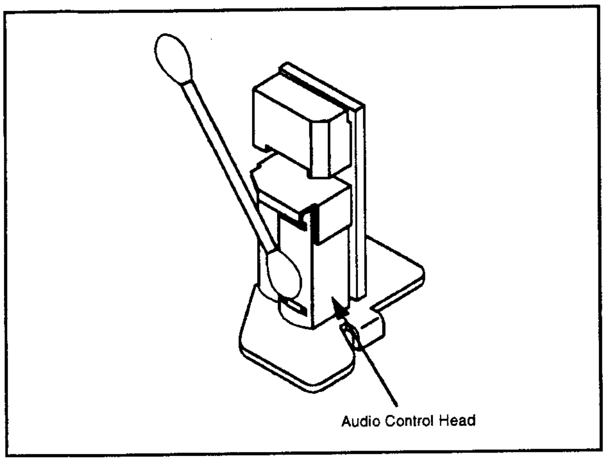
CLEANING

NOTE

After cleaning the heads with isopropyl alcohol, do not run a tape until the heads dry completely. If the heads are not completely dry and alcohol gets on the tape, damage may occur.

1. AUDIO CONTROL HEAD

Clean the Audio Control Head with the cotton stick soaked by alcohol. Clean the full erase head in the same manner. **(Refer to the figure below.)**



2. TAPE RUNNING SYSTEM

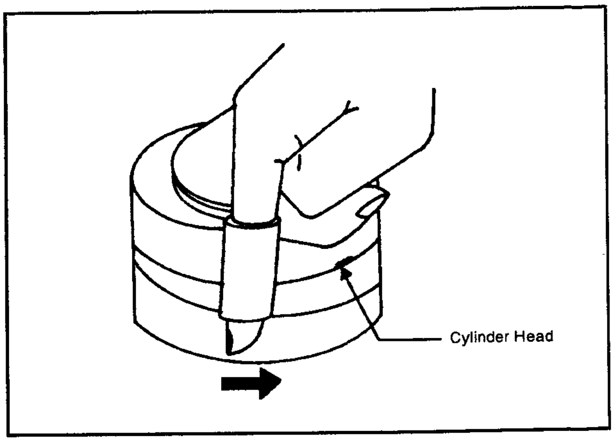
When cleaning the tape transport system, use the gauze moistened with isopropyl alcohol.

3. CYLINDER

Wrap a piece of chamois around your finger. Dip it in isopropyl alcohol. Hold it to the cylinder head softly. Turn the cylinder head counterclockwise to clean it (in the direction of the arrow). **(Refer to the figure below.)**

NOTE

Do not exert force against the cylinder head. Do not move the chamois upward or downward on the head.
Use the chamois one by one.



WHEN REPLACING EEPROM (MEMORY) IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

NOTE: Initial Data setting will not be possible if clock has been set. To reset clock, either unplug AC cord and allow at least 30 minutes before Power On or alternatively, discharge backup capacitor.
No need setting for after INI 11F due to the adjustment value.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
0B0	---	---	---	---	12	10	B0	B4	C0	8D	DC	AF	C0	E9	25	02
0C0	02	67	D8	A1	D8	01	63	65	66	27	1B	3B	28	17	15	1B
0D0	3A	0F	11	20	45	68	64	65	64	CA	00	37	87	0C	87	5F
0E0	00	DF	6F	F9	5F	01	FF	23	F9	6F	9F	B2	99	96	8B	B1
0F0	A0	C4	20	08	BF	50	2B	B5	C1	41	00	34	13	13	77	00
100	27	03	47	15	00	00	00	00	00	00	00	00	00	00	83	00
110	00	07	04	27	40	20	A0	00	00	40	00	00	08	82	30	01

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 2 seconds. ADDRESS and DATA should appear as FIG 1.

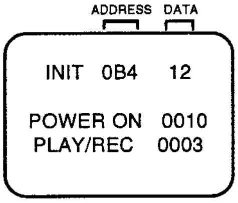


Fig. 1

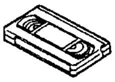
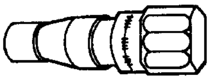
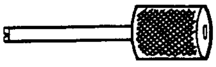
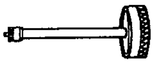
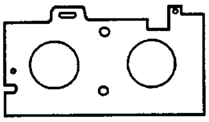
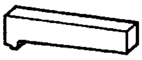
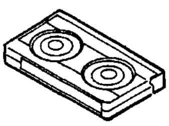
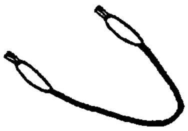
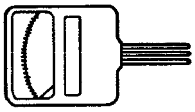
3. ADDRESS is now selected and should "blink". Using the UP/DOWN button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using UP/DOWN button until required DATA value has been selected.
6. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

After the data input, set to the initializing of shipping.

9. Turn POWER on.
10. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 2 seconds.
11. After the finishing of the initializing of shipping, the unit will turn off automatically.

The unit will now have the correct DATA for the new MEMORY IC.

SERVICING FIXTURES AND TOOLS

(For 2 head 1 speed model, 4 head model) VHS Alignment Tape JG001E (VP$_1$S-LI6^3) JG001F (VP$_1$S-CO1^3) JG001R (VP$_1$S-LI6^{3}H) JG001U (VP$_1$S-X6^3) 	**(For 2 head 2 speed model)** VHS Alignment Tape JG001C (VP$_2$S-LI6^3) JG001D (VP$_2$S-CO1^3) JG001V (VP$_2$S-X6^3) 	JG002B Adapter JG002E Dial Torque Gauge (10~90gf•cm) JG002F (60~600gf•cm) 	JG005 Post Adjustment Screwdriver Part No. SV-TG0-030-000 (small) 
JG153 X Value Adjustment Screwdriver 	JG022 Master Plane 	JG024A Reel Disk Height Adjustment Jig 	JG100A Torque Tape (VHT-063) 
JG154 Cable 	Tentelometer 		

Ref. No.	Part No.	Parts Name	Remarks
JG001E	APJG001E00	VHS Alignment Tape	Monoscope, 6KHz **(For 2 head 1 speed model, 4 head model)**
JG001F	APJG001F00	VHS Alignment Tape	Color Bar, 1KHz **(For 2 head 1 speed model, 4 head model)**
JG001R	APJG001R00	VHS Alignment Tape	Hi-Fi Audio **(For Hi-Fi model)**
JG001U	APJG001U00	VHS Alignment Tape	X Value Adjustment **(For 2 head 1 speed model, 4 head model)**
JG001C	APJG001C00	VHS Alignment Tape	Monoscope, 6KHz **(For 2 head 2 speed model)**
JG001D	APJG001D00	VHS Alignment Tape	Color Bar, 1KHz **(For 2 head 2 speed model)**
JG001V	APJG001V00	VHS Alignment Tape	X Value Adjustment **(For 2 head 2 speed model)**
JG002B	APJG002B00	Adapter	VSR Torque, Brake Torque (S Reel/T Reel Ass'y)
JG002E	APJG002E00	Dial Torque Gauge (10~90gf•cm)	Brake Torque (T Reel Ass'y)
JG002F	APJG002F00	Dial Torque Gauge (60~600gf•cm)	VSR Torque, Brake Torque (S Reel)
JG005	APJG005000	Post Adjustment Screwdriver	Guide Roller Adjustment
JG153	APJG153000	X Value Adjustment Screwdriver	X Value Adjustment
JG022	APJG022000	Master Plane	Reel Disk Height Adjustment
JG024A	APJG024A00	Reel Disk Height Adjustment Jig	Reel Disk Height Adjustment
JG100A	APJG100A00	Torque Tape (VHT-063)	Playback Torque, Back Tension Torque During Playback
JG154	APJG154000	Cable	Used to connect the test point of SERVICE and GROUND

PREPARATION FOR SERVICING

How to use the Servicing Fixture

1. Remove the TV/VCR/DVD block from the set.
   Be sure to place the parts on a paper so that they have no short-circuit each other.
2. Short circuit between **TP1001** and **Ground** with the cable JG154.
   (The BOT, EOT, and the Reel Sensor do not work and the VCR deck can be operated without a cassette tape.)
3. In case of using a cassette tape, press the STOP/EJECT button to insert or eject a cassette tape.
   Turn on the power and re-check the cable before checking the trouble points.

MECHANICAL ADJUSTMENTS

1. CONFIRMATION AND ADJUSTMENT

Read the following NOTES before starting work.

- Place an object which weighs between 450g~500g on the Cassette Tape to keep it steady when you want to make the tape run without the Cassette Holder. (Do not place an object which weighs over 500g.)

1-1: CONFIRMATION AND ADJUSTMENT OF REEL DISK HEIGHT

1. Turn on the power and set to the STOP mode.
2. Set the master plane **(JG022)** and reel disk height adjustment jig **(JG024A)** on the mechanism framework, taking care not to scratch the drum, as shown in **Fig. 1-1-A.**
3. While turning the reel and confirm the following points. Check if the surface "A" of reel disk is lower than the surface "B" of reel disk height adjustment jig **(JG024A)** and is higher than the surface "C". If it is not passed, place the height adjustment washers and adjust to 10(+2, -0)mm.
4. Adjust the other reel in the same way.

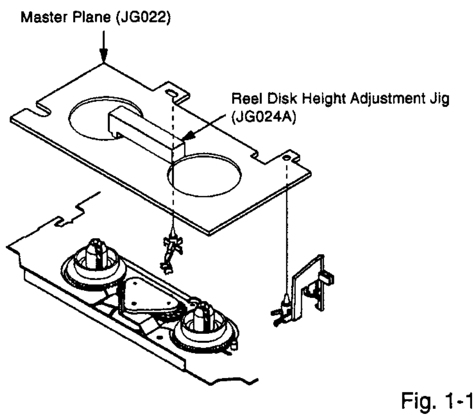

Master Plane (JG022)
Reel Disk Height Adjustment Jig (JG024A)

Fig. 1-1-A

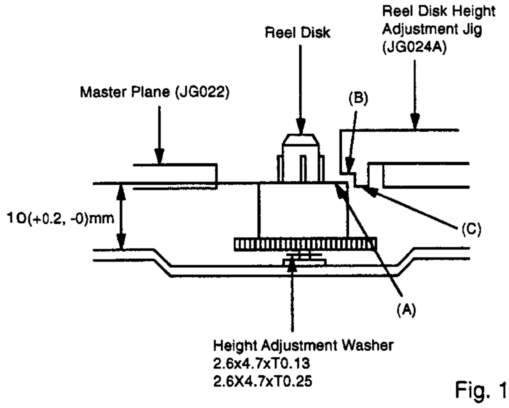

Reel Disk
Reel Disk Height Adjustment Jig (JG024A)
Master Plane (JG022)
(B)
10(+0.2, -0)mm
(C)
(A)
Height Adjustment Washer
2.6x4.7xT0.13
2.6X4.7xT0.25

Fig. 1-1-B

1-2: CONFIRMATION AND ADJUSTMENT OF TENSION POST POSITION

1. Set to the PLAY mode.
2. Adjust the adjusting section for the Tension Arm position so that the Tension Arm top is within the standard line of Main Chassis.
3. While turning the S Reel clockwise, confirm that the edge of the Tension Arm is located in the position described above.

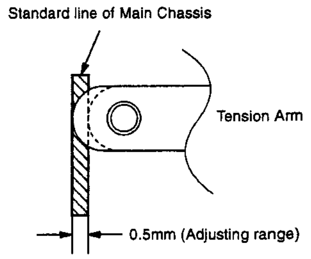

Standard line of Main Chassis
Tension Arm
0.5mm (Adjusting range)

Fig. 1-2-A

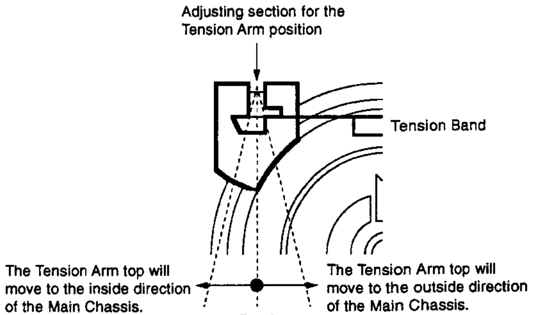

Adjusting section for the Tension Arm position
Tension Band
The Tension Arm top will move to the inside direction of the Main Chassis.
The Tension Arm top will move to the outside direction of the Main Chassis.
Bend

Fig. 1-2-B

1-3: CONFIRMATION OF PLAYBACK TORQUE AND BACK TENSION TORQUE DURING PLAYBACK

1. Load a video tape (E-180) recorded in standard speed mode. Set the unit to the PLAY mode.
2. Install the tentelometer as shown in **Fig. 1-3.** Confirm that the meter indicates 20 ± 2gf in the beginning of playback.

- USING A CASSETTE TYPE TORQUE TAPE **(JG100A)**

1. After confirmation and adjustment of Tension Post position **(Refer to item 1-2)**, load the cassette type torque tape **(JG100A)** and set to the PLAY mode.
2. Confirm that the right meter of the torque tape indicates 50~90gf•cm during playback in SP mode.
3. Confirm that the left meter of the torque tape indicates 25~40gf•cm during playback in SP mode.

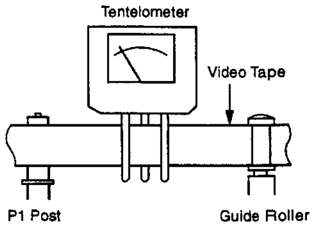

Tentelometer
Video Tape
P1 Post
Guide Roller

Fig. 1-3

MECHANICAL ADJUSTMENTS

1-4: CONFIRMATION OF VSR TORQUE

1. Install the Torque Gauge **(JG002F)** and Adapter **(JG002B)** on the S Reel. Set to the Picture Search (Rewind) mode. **(Refer to Fig.1-4-B)**
2. Then, confirm that it indicates 120~180gf•cm.

NOTE

Install the Torque Gauge on the reel disk firmly. Press the REW button to turn the reel disk.

1-5: CONFIRMATION OF REEL BRAKE TORQUE

(S Reel Brake) **(Refer to Fig. 1-4-B)**

1. Once set to the Fast Forward mode then set to the Stop mode. While, unplug the AC cord when the Pinch Roller Block is on the position of **Fig. 1-4-A.**
2. Move the Idler Ass'y from the S Reel.
3. Install the Torque Gauge **(JG002F)** and Adapter **(JG002B)** on the S Reel. Turn the Torque Gauge **(JG002F)** clockwise.
4. Then, confirm that it indicates 60~100gf•cm.

(T Reel Brake) **(Refer to Fig. 1-4-B)**

1. Once set to the Fast Forward mode then set to the Stop mode. While, unplug the AC cord when the Pinch Roller Block is on the position of **Fig. 1-4-A.**
2. Move the Idler Ass'y from the T Reel.
3. Install the Torque Gauge **(JG002E)** and Adapter **(JG002B)** on the T reel. Turn the Torque Gauge **(JG002E)** counterclockwise.
4. Then, confirm that it indicates 30~50gf•cm.

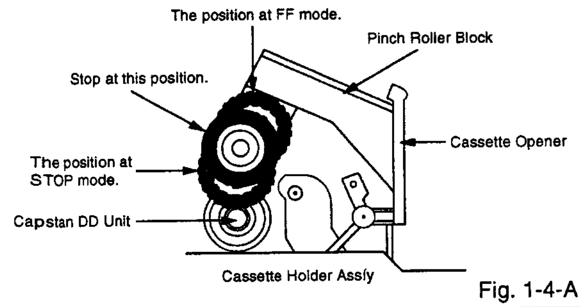

The position at FF mode.
Pinch Roller Block
Stop at this position.
Cassette Opener
The position at STOP mode.
Capstan DD Unit
Cassette Holder Assy

Fig. 1-4-A

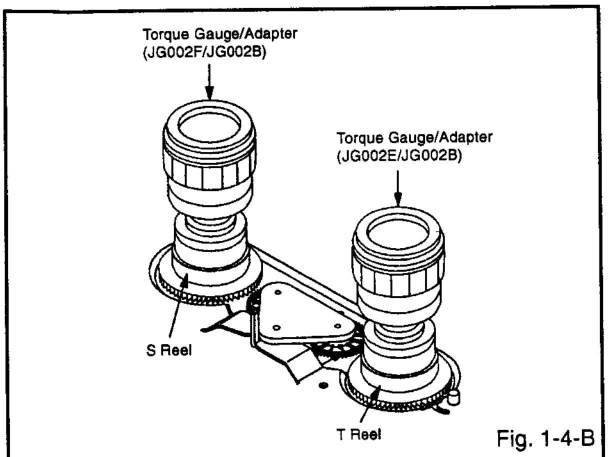

Torque Gauge/Adapter (JG002F/JG002B)
Torque Gauge/Adapter (JG002E/JG002B)
S Reel
T Reel

Fig. 1-4-B

NOTE

If the torque is out of the range, replace the following parts.

Check item	Replacement Part
1-4	Idler Assy/Clutch Assy
1-5	S Reel side: S Reel/Tension Band/Tension Connect/Tension Arm Assy T Reel side: T Reel/T Brake Band//T Brake Spring/T Brake Arm

2. CONFIRMATION AND ADJUSTMENT OF TAPE RUNNING MECHANISM

Tape Running Mechanism is adjusted precisely at the factory. Adjustment is not necessary as usual. When you replace the parts of the tape running mechanism because of long term usage or failure, the confirmation and adjustment are necessary.

2-1: GUIDE ROLLER

1. Playback the VHS Alignment Tape **(JG001C or JG001E). (Refer to SERVICING FIXTURE AND TOOLS)**
2. Connect CH-1 of the oscilloscope to **TP4502 (Envelope)** and CH-2 to **TP4501 (SW Pulse).**
3. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
4. Trigger with SW Pulse and observe the envelope. **(Refer to Fig. 2-1-A)**
5. When observing the envelope, adjust the Adjusting Driver **(JG005)** slightly until the envelope will be flat. Even if you press the Tracking Button, adjust so that flatness is not moved so much.
6. Adjust so that the A : B ratio is better than 3 : 2 as shown in **Fig. 2-1-B**, even if you press the Tracking Button to move the envelope (The envelope waveform will begin to decrease when you press the Tracking Button).
7. Adjust the PG shifter during playback. **(Refer to the ELECTRICAL ADJUSTMENTS)**

NOTE

After adjustment, confirm and adjust A/C head. **(Refer to item 2-2)**

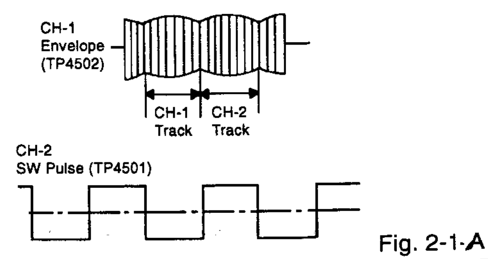

CH-1
Envelope
(TP4502)
CH-1 Track
CH-2 Track
CH-2
SW Pulse (TP4501)

Fig. 2-1-A

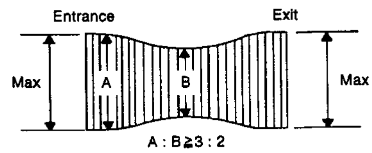

Entrance
Exit
Max
A
B
Max
A : B≥3 : 2

Fig. 2-1-B

MECHANICAL ADJUSTMENTS

2-2: CONFIRMATION AND ADJUSTMENT OF AUDIO/ CONTROL HEAD

When the Tape Running Mechanism does not work well, adjust the following items.

1. Playback the VHS Alignment Tape **(JG001C or JG001E). (Refer to SERVICING FIXTURE AND TOOLS)**
2. Confirm that the reflected picture of stamp mark is appeared on the tape prior to P4 Post as shown in **Fig. 2-2-A.**
   a) When the reflected picture is distorted, turn the screw (1) clockwise until the distortion is disappeared.
   b) When the reflected picture is not distorted, turn the screw (1) counterclockwise until little distortion is appeared, then adjust the a).
3. Turn the screw (2) to set the audio level to maximum.
4. Confirm that the bottom of the Audio/ Control Head and the bottom of the tape is shown in **Fig. 2-2-C.**
   c) When the height is not correct, turn the screw (3) to adjust the height. Then, adjust the 1~3 again.

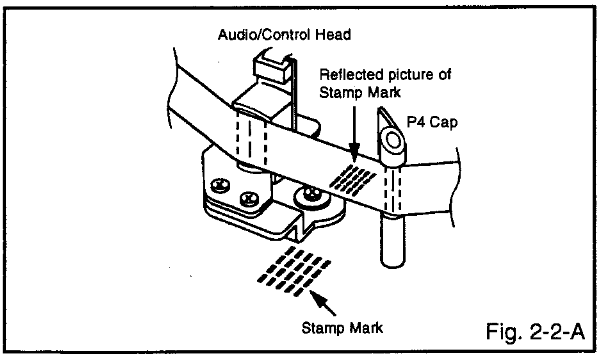


Fig. 2-2-A

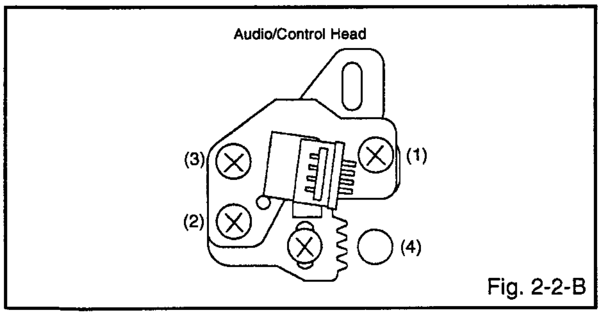


Fig. 2-2-B

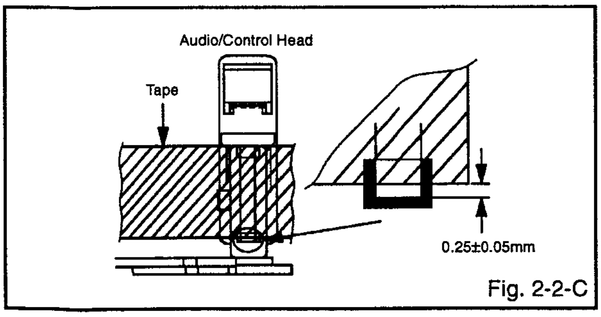


Fig. 2-2-C

2-3: TAPE RUNNING ADJUSTMENT (X VALUE ADJUSTMENT)

1. Confirm and adjust the height of the Reel Disk. **(Refer to item 1-1)**
2. Confirm and adjust the position of the Tension Post. **(Refer to item 1-2)**
3. Adjust the Guide Roller. **(Refer to item 2-1)**
4. Confirm and adjust the Audio/Control Head. **(Refer to item 2-2)**
5. Connect CH-1 of the oscilloscope to **TP4501**, CH-2 to **TP4502** and CH-3 to **HOT side of Audio Out Jack.**
6. Playback the VHS Alignment Tape **(JG001U or JG001V). (Refer to SERVICING FIXTURE AND TOOLS)**
7. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
8. Set the X Value adjustment driver **(JG153)** to the (4) of **Fig. 2-2-B.** Adjust X value so that the envelope waveform output becomes maximum. Check if the relation between Audio and Envelope waveform becomes (1) or (2) of **Fig. 2-3.**

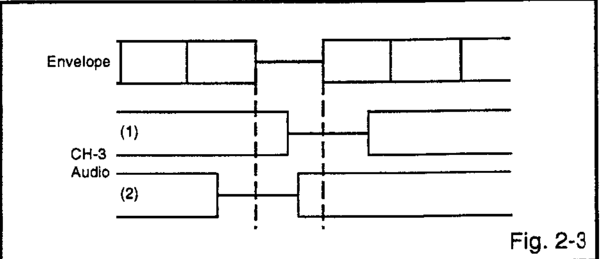


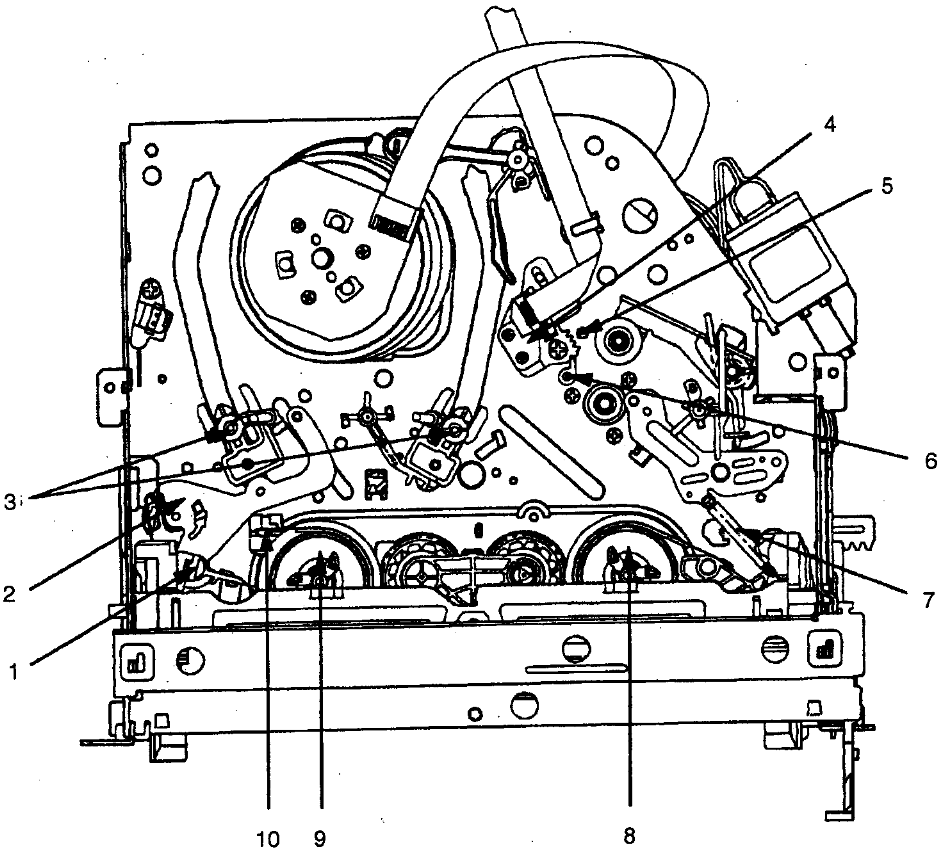
Fig. 2-3

2-4: CONFIRM HI-FI AUDIO (Hi-Fi model only)

1. Connect CH-1 of the oscilloscope to **TP4501** and CH-2 to the **Hi-Fi Audio Out Jack.**
2. Playback the VHS Alignment Tape **(JG001R). (Refer to SERVICING FIXTURE AND TOOLS)**
3. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
4. Press the Tracking Up button and count number of steps which the audio output is changed from Hi-Fi (10KHz) to MONO (6KHz).
5. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
6. Press the Tracking Down button and count number of steps which the audio output is changed from Hi-Fi (10KHz) to MONO (6KHz).
7. If the difference are more than 3 steps, set the X Value adjustment driver **(JG153)** to (4) of **Fig. 2-2-B.** Change the X Value and adjust it so that the value becomes within 2 steps.

MECHANICAL ADJUSTMENTS

3. MECHANISM ADJUSTMENT PARTS LOCATION GUIDE



1. Tension Connect	6. P4 Post
2. Tension Arm	7. T Brake Spring
3. Guide Roller	8. T Reel
4. Audio/Control Head	9. S Reel
5. X value adjustment driver hole	10. Adjusting section for the Tension Arm position

ELECTRICAL ADJUSTMENTS

1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor for a heat sink, apply the silicon grease **(YG6260M)** on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor).

Prepare the following measurement tools for electrical adjustments.

1. Oscilloscope
2. Digital Voltmeter
3. Multi-sound Generator
4. Pattern Generator

On-Screen Display Adjustment

1. Unplug the AC plug for more than 30 minutes to set the clock to the non-setting state. (To release the Back-Up immediately, take the short circuit between **C1003** and **GND** at the Power Off.) Then, set the volume level to minimum.
2. Press the VOL. DOWN button on the set and the channel button **(9)** on the remote control for more than 2 seconds to display adjustment mode on the screen as shown in **Fig. 1-1**.

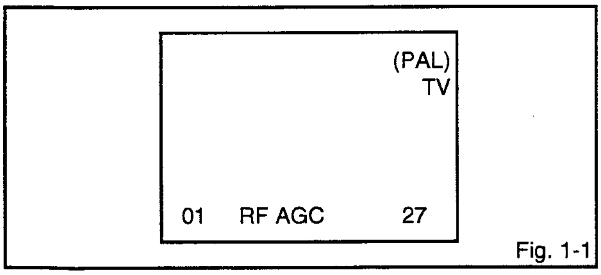


Fig. 1-1

3. Use the UP/DOWN button or Channel button **(0-9)** on the remote control to select the options shown in **Fig. 1-2.**
4. Press the MENU button on the remote control to end the adjustments.

NO.	FUNCTION	NO.	FUNCTION
00	CUT OFF	19	BRIGHT MIN
01	RF AGC	20	CONTRAST CENT
02	AGC GAIN	21	CONTRAST MAX
03	R DRIVE	22	CONTRAST MIN
04	R CUTOFF	23	COLOR CENT
05	G DRIVE	24	COLOR MAX
06	G CUTOFF	25	COLOR MIN
07	B DRIVE	27	SHARP
08	H POSI	28	M R CUT OFF
09	V POSI	29	M G CUT OFF
11	V SIZE	30	M B CUT OFF
13	VCO COARSE	31	H POS OSD
14	VCO FINE	35	CVBS OUT
15	VCO COARSE L1	36	APR THRESHOLD
16	VCO FINE L1	37	BELL FILTER
17	BRIGHT CENT	38	BANDPASS
18	BRIGHT MAX		

Fig. 1-2

2. BASIC ADJUSTMENTS (VCR SECTION)

2-1: PG SHIFTER

1. Playback the alignment tape. **(JG001R)**
2. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
3. Press the VOL. DOWN button on the set and the channel button **(3)** on the remote control simultaneously until the indicator REC disappears. If the indicator REC disappears, adjustment is completed.

(If the above adjustments doesn't work well:)

4. Connect CH-1 on the oscilloscope to **TP4501** and CH-2 to **TP4201**.
5. Press the VOL. DOWN button on the set and the channel button **(3)** on the remote control simultaneously until the indicator REC disappears.
6. When the REC indicator is blinking, press both VOL. DOWN button on the set and the channel button **(4)** on the remote control simultaneously and adjust the Tracking +/- button until the arising to the down of Head Switching Pulse becomes 6.5 ± 0.5H. **(Refer to Fig. 2-1-A, B)**
7. Stop the alignment tape.

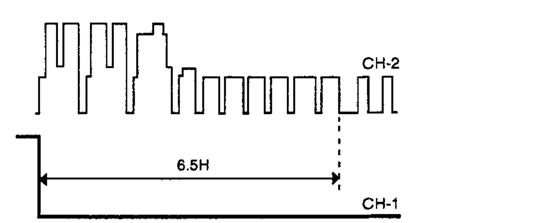


Fig. 2-1-A

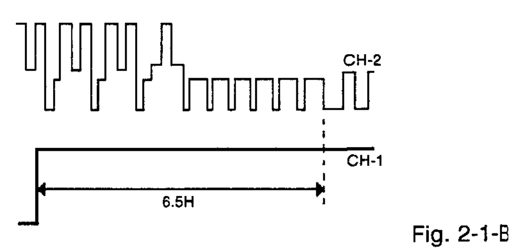


Fig. 2-1-B

2-2: RF AGC

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the VHF HIGH (63dB).
3. Connect the digital voltmeter between the **pin 5 of CP603** and the **pin 1 (GND) of CP603**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(01)** on the remote control to select "RF AGC".
5. Press the RIGHT/LEFT button on the remote control until the digital voltmeter is 2.6 ± 0.05V.

ELECTRICAL ADJUSTMENTS

2-3: VCO (AFT)

1. Place the set with Aging Test for more than 10 minutes.
2. Connect the oscillator (38.9MHz) to **TP601**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(13)** on the remote control to select "VCO COARSE".
4. Press the RIGHT/LEFT button on the remote control until the "OK" appear on the screen. If the "OK" is not displayed, select the "-" side on the changed from "+" to "-".
5. Press the CH UP button once to set to "VCO FINE" mode.
6. Press the RIGHT/LEFT button on the remote control to select the 4 step down point from the upper limit on the "OK".
   (Example: In case of the "OK" point 30~41, select 37.)
7. Connect the oscillator (33.95MHz) to **TP601**.
8. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(15)** on the remote control to select "VCO COARSE L1".
9. Press the RIGHT/LEFT button on the remote control until the "OK" appear on the screen. If the "OK" is not displayed, select the "-" side on the changed from "+" to "-".
10. Press the CH UP button once to set to "VCO FINE L1" mode.
11. Press the RIGHT/LEFT button on the remote control to select the 5 step down point from the upper limit on the "OK".
    (Example: In case of the "OK" point 30~41, select 36.)

(TV SECTION)

2-4: CONSTANT VOLTAGE

1. Connect the digital voltmeter to **TP401**.
2. Set condition is AV MODE without signal.
3. Using the remote control, set the brightness and contrast to normal position.
4. Adjust the **VR1701** until the digital voltmeter is 135 ± 1V.

2-5: FOCUS

1. Receive a broadcast.
2. Turn the Focus Volume fully counterclockwise once.
3. Adjust the **Focus Volume** until picture is distinct.

2-6: HORIZONTAL POSITION

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(08)** on the remote control to select "H POSI (50)".
4. Press the RIGHT/LEFT button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.
5. Receive the cross hatch signal of NTSC. (Audio Video Input)
6. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~4.

2-7: VERTICAL POSITION

NOTE: Adjust after performing adjustments in section 2-6.

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(09)** on the remote control to select "V POSI (50)".
4. Check if the step No. V. POSI (50) is "00".
5. Adjust the **VR402** until the horizontal line becomes fit to the notch of the shadow mask.
6. Receive the cross hatch signal of NTSC. (Audio Video Input)
7. Press the AV button on the remote control to set to the AV mode.
8. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(09)** on the remote control to select "V POSI (60)".
9. Check if the step No. V. POSI (60) is "08".

2-8: VERTICAL SIZE

NOTE: Adjust after performing adjustments in section 2-7.

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(11)** on the remote control to select "V SIZE (50)".
4. Adjust by using the RIGHT/LEFT button on the remote control so that the Up/Down OVER SCAN Quantity becomes equal to the Right/Left OVER SCAN Quantity.
5. Receive a broadcast and check if the picture is normal.
6. Receive the cross hatch signal of NTSC. (Audio Video Input)
7. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~4.

2-9: VERTICAL LINEARITY

NOTE: Adjust after performing adjustments in section 2-8. After the adjustment of Vertical Linearity, reconfirm the Vertical Position and Vertical Size adjustments.

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Adjust the **VR401** until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

ELECTRICAL ADJUSTMENTS

2-10: OSD HORIZONTAL

1. Using the remote control, set the brightness and contrast to normal position.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(31)** on the remote control to select "H POS OSD".
3. Press the RIGHT/LEFT button on the remote control until the difference of A and B becomes minimum. **(Refer to Fig. 2-2)**

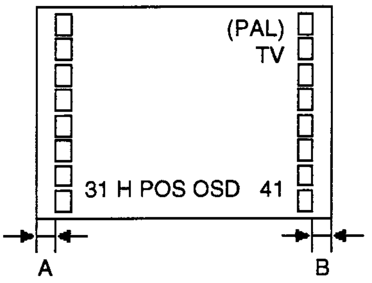


Fig. 2-2

2-11: CUT OFF

1. Set condition is AV MODE without signal.
2. Using the remote control, set the brightness and contrast to normal position.
3. Place the set with Aging Test for more than 15 minutes.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(00)** on the remote control to select "CUT OFF".
5. Adjust the **Screen Volume** until a dim raster is obtained.

2-12: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(03)** on the remote control to select "R DRIVE".
5. Press the UP/DOWN button on the remote control to select the "R DRIVE", "G DRIVE", "M R CUTOFF" or "M G CUTOFF".
6. Adjust the RIGHT/LEFT button on the remote control to whiten the R DRIVE, G DRIVE, M R CUT OFF, and M G CUT OFF at each step tone sections equally.
7. Perform the above adjustments 5 and 6 until the white color is looked like a white.

2-13: BRIGHT CENT

1. Receive the PAL black pattern*. (RF Input)
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(17)** on the remote control to select "BRIGHT CENT".
4. Press the RIGHT/LEFT button on the remote control until the screen begin to shine.
5. Receive the PAL black pattern*. (Audio Video Input)
6. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~4.
7. Press the DVD button on the remote control to set to the DVD mode.
8. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(17)** on the remote control to select "BRIGHT CENT".
9. Press the RIGHT/LEFT button on the remote control to set the same step numbers as the RF.

*The Black Pattern means the whole black raster signal. Select the "RASTER" of the pattern generator, set to the OFF position for each R, G and B.

2-14: CONTRAST CENT

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(20)** on the remote control to select "CONTRAST CENT".
2. Press the RIGHT/LEFT button on the remote control until the contrast step No. becomes "55".
3. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 1, 2.
4. Press the DVD button on the remote control to set to the DVD mode.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(20)** on the remote control to select "CONTRAST CENT".
6. Press the RIGHT/LEFT button on the remote control to set the same step numbers as the RF.

ELECTRICAL ADJUSTMENTS

2-15: COLOR CENT

1. Receive the PAL color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast and color to normal position.
3. Connect the oscilloscope to **TP024**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(23)** on the remote control to select "COLOR CENT".
5. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
6. Press the RIGHT/LEFT button on the remote control until the red color level is adjusted to 90 ± 5% of the white level. **(Refer to Fig. 2-3)**
7. Receive the PAL color bar pattern. (Audio Video Input)
8. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~6.
9. Receive the SECAM color bar pattern. (RF Input) Then perform the above adjustments 2~6. **(Refer to Fig. 2-4)**.
10. Receive the SECAM color bar pattern. (Audio Video Input)
11. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~6. **(Refer to Fig. 2-4)**.
12. Press the DVD button on the remote control to set to the DVD mode.
13. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(23)** on the remote control to select "COLOR CENT".
14. Press the RIGHT/LEFT button on the remote control to decrease the step numbers by 5 steps to the RF (PAL).

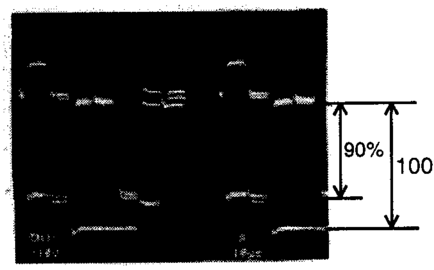


Fig. 2-3

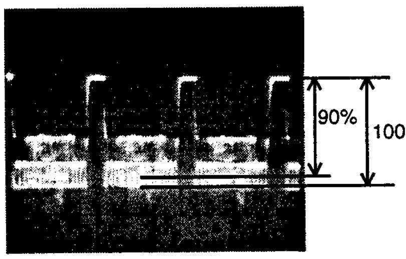


Fig. 2-4

2-16: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below. (RF/AV/DVD)

NO.	FUNCTION	STEP NO.
02	AGC GAIN	00
04	R CUTOFF	31
06	G CUTOFF	31
07	B DRIVE	31
18	BRIGHT MAX	60
19	BRIGHT MIN	20
21	CONTRAST MAX	63
22	CONTRAST MIN	10
24	COLOR MAX	55
25	COLOR MIN	10
27	SHARP	10
30	M B CUT OFF	50
35	CVBS OUT	15
36	APR THRESHOLD	12
37	BELL FILTER	00
38	BANDPASS	00

ELECTRICAL ADJUSTMENTS

3. PURITY AND CONVERGENCE ADJUSTMENTS

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

3-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. **(Refer to Fig. 3-1)**
   If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from the color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

3-2: PURITY

NOTE

Adjust after performing adjustments in section 3-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
   Adjust the pair of purity magnets so the color at the ends are equally wide.
3. Move the deflection yoke backward (to neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue color.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

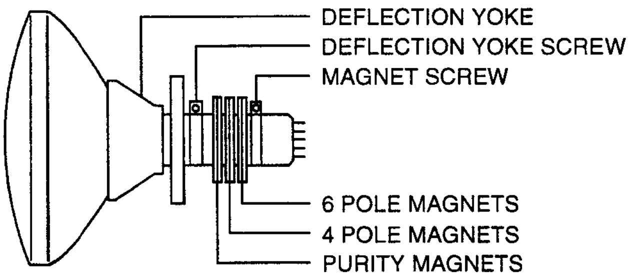


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

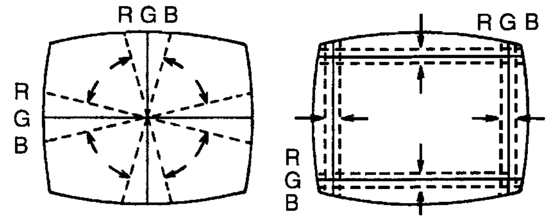
1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

3-4: DYNAMIC CONVERGENCE

NOTE

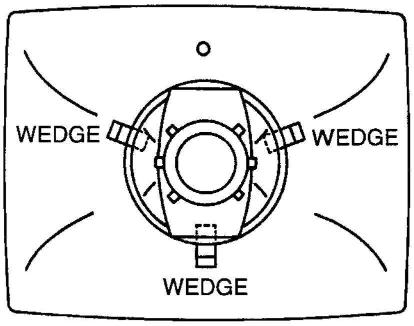
Adjust after performing adjustments in section 3-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. **(Refer to Fig. 3-2-a)**
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. **(Refer to Fig. 3-2-b)**



UPWARD/DOWNWARD SLANT RIGHT/LEFT SLANT

Fig. 3-2-a

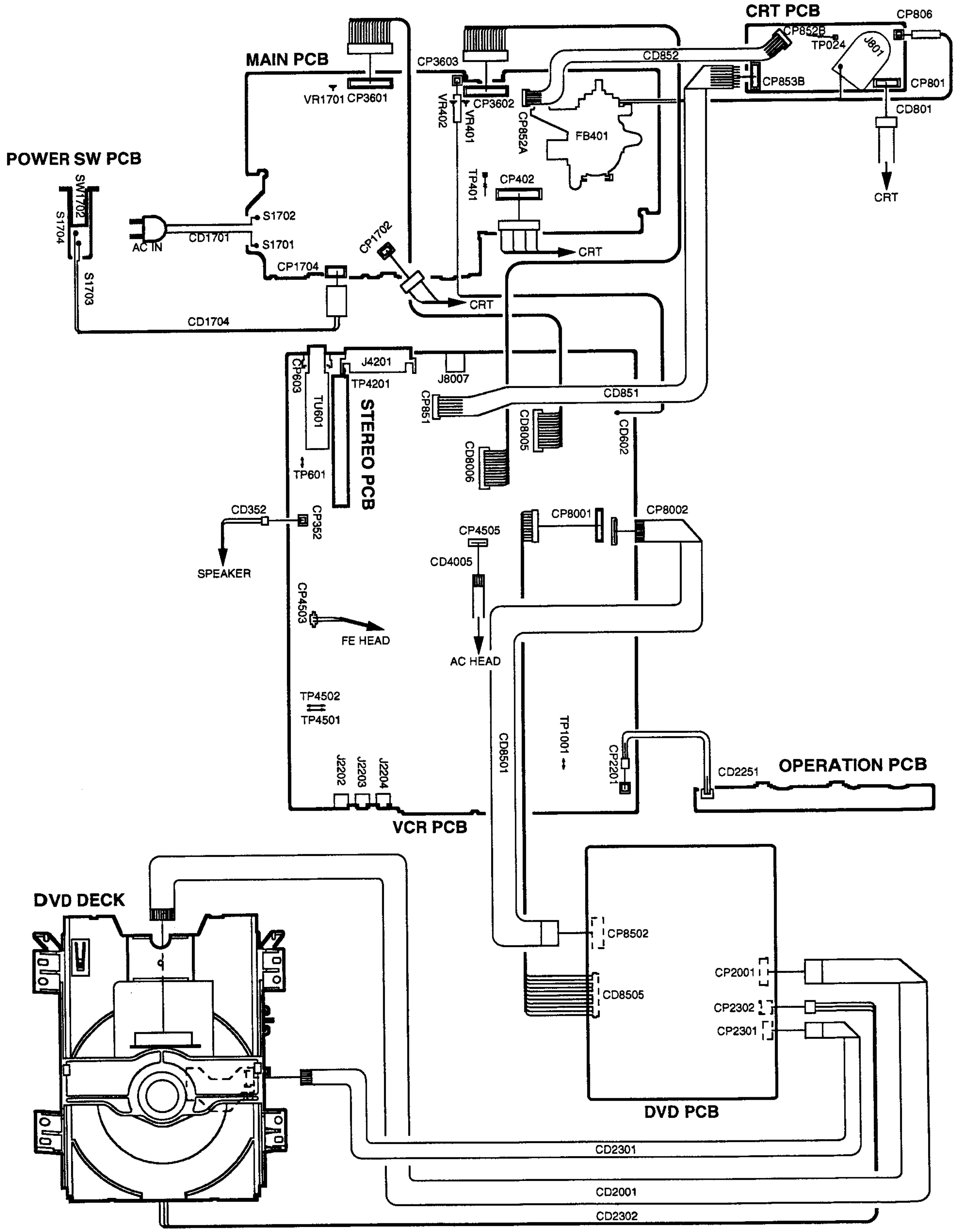


WEDGE POSITION

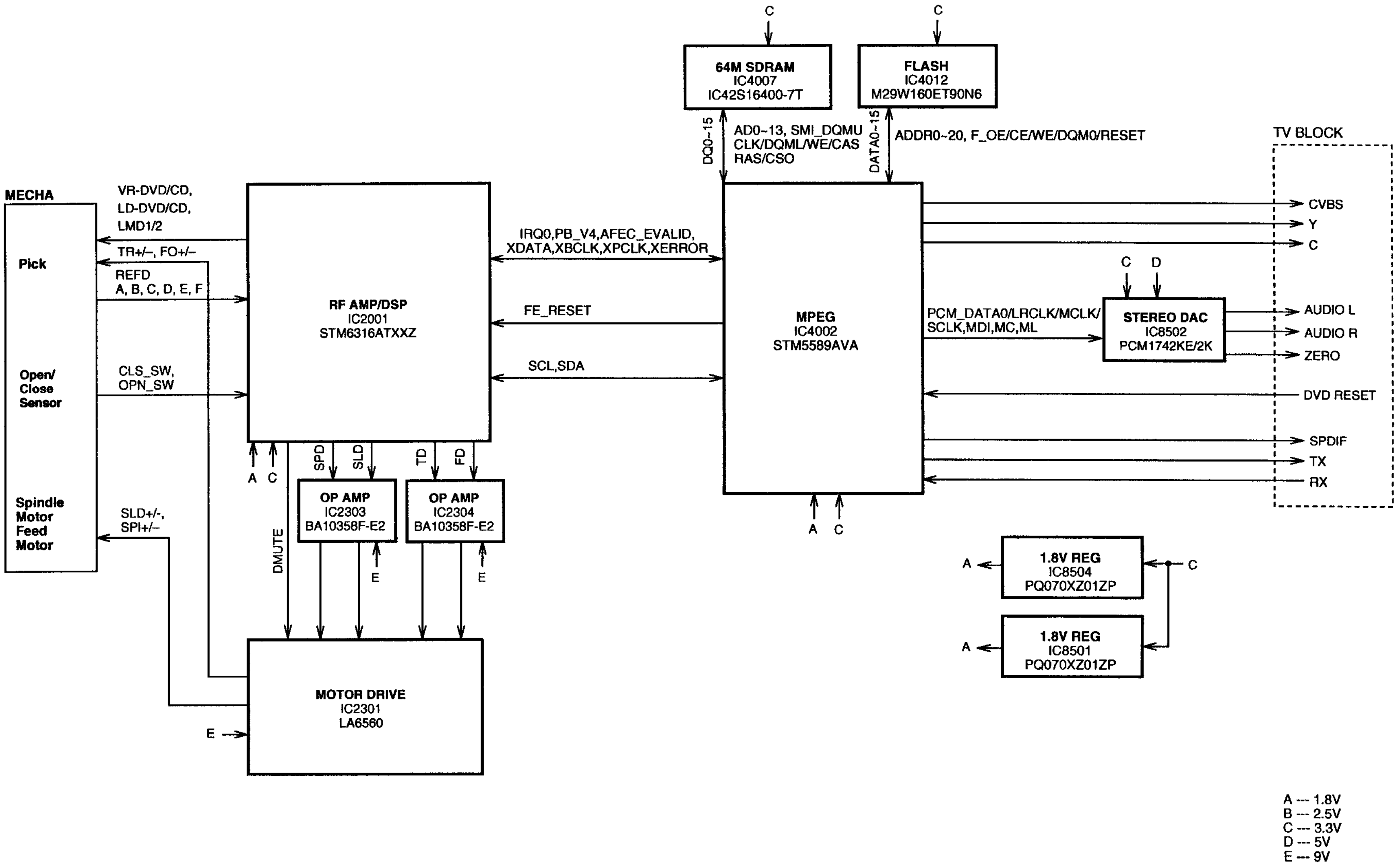
Fig. 3-2-b

ELECTRICAL ADJUSTMENTS

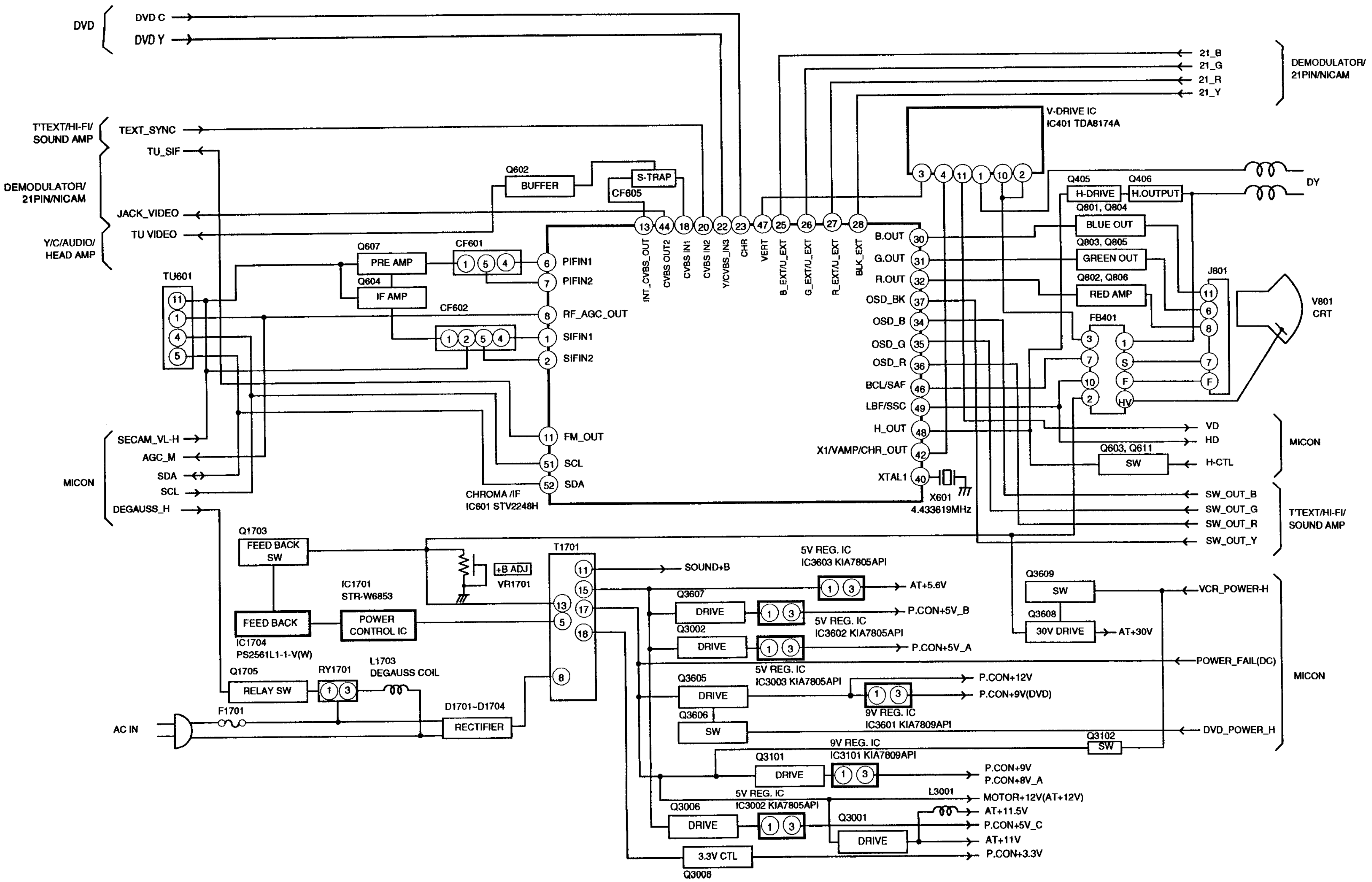
4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)


CRT PCB
CP806
CP852B
TP024
J801
CD852
CP853B
CP801
CD801
CRT
MAIN PCB
CP3603
VR1701
CP3601
VR402
CP3602
VR401
CP852A
FB401
POWER SW PCB
SW1702
S1704
S1703
TP401
CP402
S1702
CD1701
AC IN
S1701
CRT
CP1702
CP1704
CRT
CD1704
J4201
CP603
TP4201
J8007
TU601
CP851
CD851
STEREO PCB
CD8005
CD602
CD8006
TP601
CD352
CP352
CP8001
CP8002
CP4505
SPEAKER
CD4005
CP4503
FE HEAD
AC HEAD
TP4502
TP4501
CD8501
TP1001
CP2201
CD2251
OPERATION PCB
J2202
J2203
J2204
VCR PCB
DVD DECK
CP8502
CP2001
CD8505
CP2302
CP2301
DVD PCB
CD2301
CD2001
CD2302

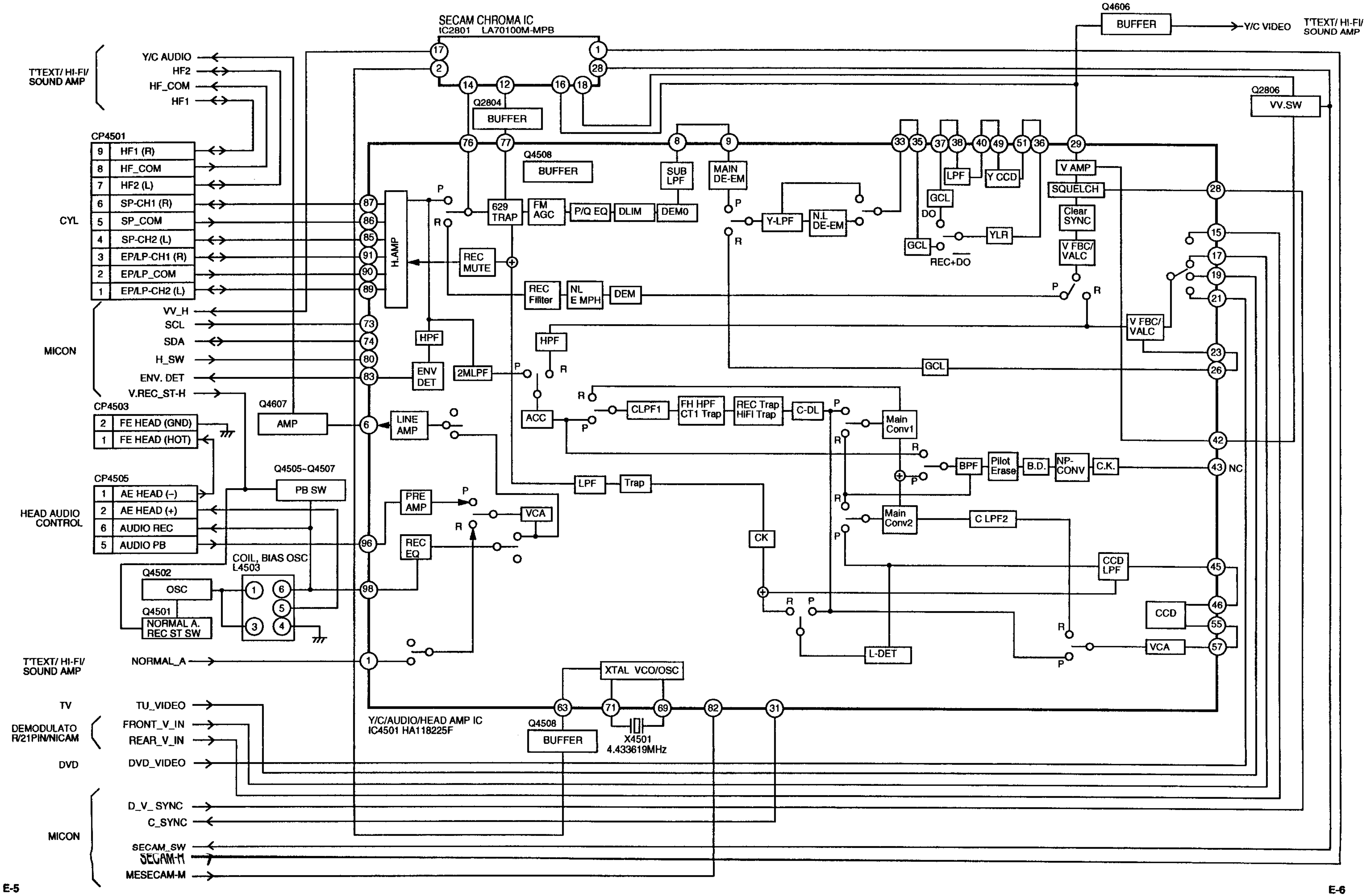
DVD ST SOLUTION BLOCK DIAGRAM


MECHA
Pick
Open/ Close Sensor
Spindle Motor Feed Motor
VR-DVD/CD,
LD-DVD/CD,
LMD1/2
TR+/–, FO+/–
REFD
A, B, C, D, E, F
CLS_SW,
OPN_SW
SLD+/-,
SPI+/–
RF AMP/DSP
IC2001
STM6316ATXXZ
A
C
SPD
SLD
TD
FD
DMUTE
OP AMP
IC2303
BA10358F-E2
OP AMP
IC2304
BA10358F-E2
E
E
MOTOR DRIVE
IC2301
LA6560
E
IRQ0,PB_V4,AFEC_EVALID,
XDATA,XBCLK,XPCLK,XERROR
FE_RESET
SCL,SDA
C
64M SDRAM
IC4007
IC42S16400-7T
C
FLASH
IC4012
M29W160ET90N6
DQ0~15
AD0~13, SMI_DQMU
CLK/DQML/WE/CAS
RAS/CSO
DATA0~15
ADDR0~20, F_OE/CE/WE/DQM0/RESET
MPEG
IC4002
STM5589AVA
A
C
PCM_DATA0/LRCLK/MCLK/
SCLK,MDI,MC,ML
C
D
STEREO DAC
IC8502
PCM1742KE/2K
TV BLOCK
CVBS
Y
C
AUDIO L
AUDIO R
ZERO
DVD RESET
SPDIF
TX
RX
A
1.8V REG
IC8504
PQ070XZ01ZP
C
A
1.8V REG
IC8501
PQ070XZ01ZP
A --- 1.8V
B --- 2.5V
C --- 3.3V
D --- 5V
E --- 9V

TV BLOCK DIAGRAM

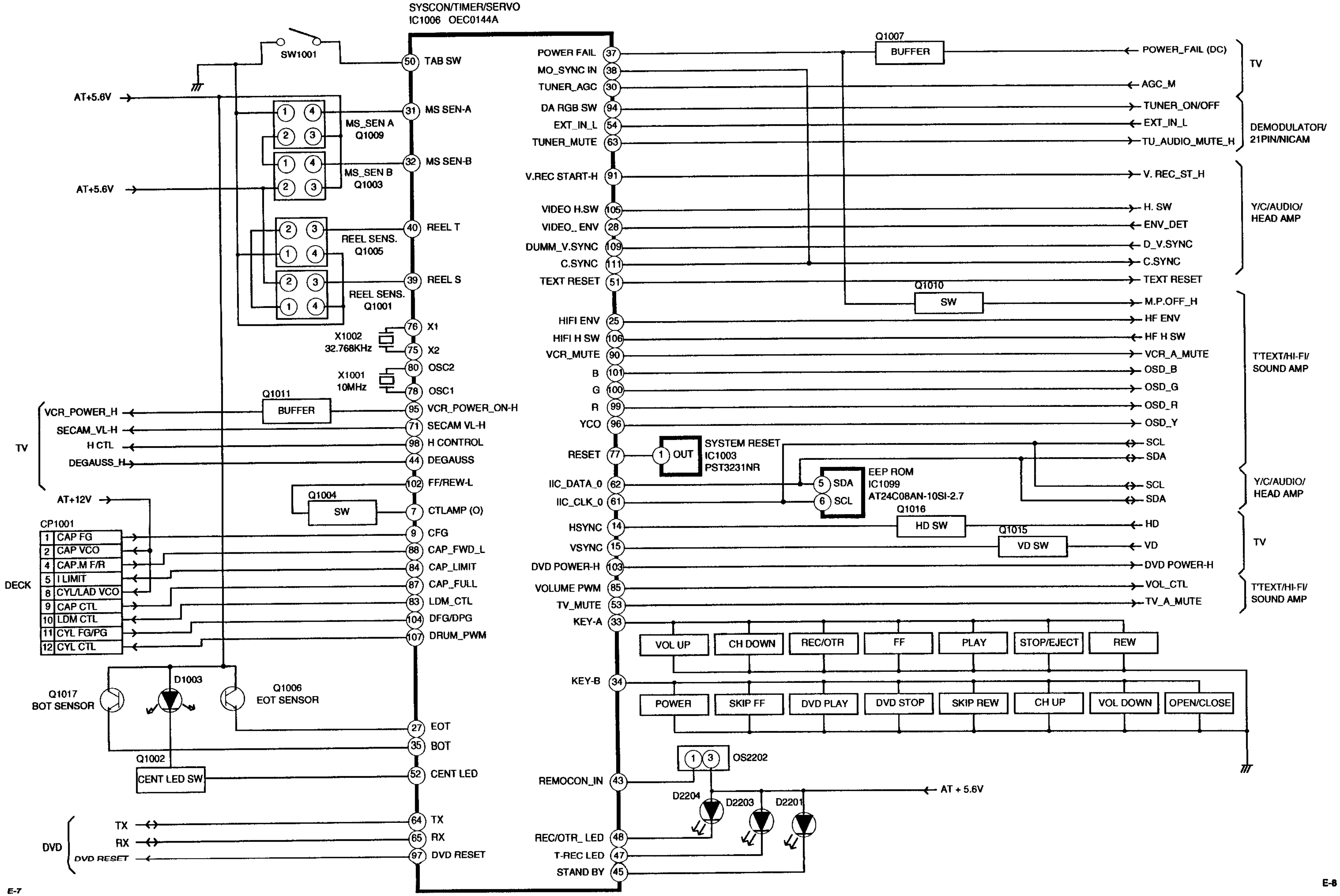

DVD
DVD C
DVD Y
T'TEXT/HI-FI/ SOUND AMP
TEXT_SYNC
TU_SIF
DEMODULATOR/ 21PIN/NICAM
JACK_VIDEO
Y/C/AUDIO/ HEAD AMP
TU VIDEO
Q602
BUFFER
S-TRAP
CF605
Q607
PRE AMP
CF601
Q604
IF AMP
CF602
TU601
PIFIN1
PIFIN2
RF_AGC_OUT
SIFIN1
SIFIN2
FM_OUT
SCL
SDA
CHROMA /IF
IC601 STV2248H
INT_CVBS_OUT
CVBS OUT2
CVBS IN1
CVBS IN2
Y/CVBS_IN3
CHR
VERT
B_EXT/U_EXT
G_EXT/U_EXT
R_EXT/U_EXT
BLK_EXT
B.OUT
G.OUT
R.OUT
OSD_BK
OSD_B
OSD_G
OSD_R
BCL/SAF
LBF/SSC
H_OUT
X1/VAMP/CHR_OUT
XTAL1
X601
4.433619MHz
21_B
21_G
21_R
21_Y
DEMODULATOR/ 21PIN/NICAM
V-DRIVE IC
IC401 TDA8174A
DY
Q405
H-DRIVE
Q406
H.OUTPUT
Q801, Q804
BLUE OUT
Q803, Q805
GREEN OUT
Q802, Q806
RED AMP
J801
V801
CRT
FB401
S
F
HV
VD
HD
MICON
Q603, Q611
SW
H-CTL
SW_OUT_B
SW_OUT_G
SW_OUT_R
SW_OUT_Y
T'TEXT/HI-FI/ SOUND AMP
MICON
SECAM_VL-H
AGC_M
SDA
SCL
DEGAUSS_H
Q1703
FEED BACK SW
+B ADJ
VR1701
IC1701
STR-W6853
FEED BACK
IC1704
PS2561L1-1-V(W)
POWER CONTROL IC
T1701
SOUND+B
5V REG. IC
IC3603 KIA7805API
AT+5.6V
Q3607
DRIVE
P.CON+5V_B
5V REG. IC
IC3602 KIA7805API
Q3002
DRIVE
P.CON+5V_A
Q3609
SW
VCR_POWER-H
Q3608
30V DRIVE
AT+30V
POWER_FAIL(DC)
MICON
Q1705
RELAY SW
RY1701
L1703
DEGAUSS COIL
Q3605
DRIVE
5V REG. IC
IC3003 KIA7805API
P.CON+12V
P.CON+9V(DVD)
9V REG. IC
IC3601 KIA7809API
Q3606
SW
DVD_POWER_H
Q3102
SW
AC IN
F1701
D1701~D1704
RECTIFIER
9V REG. IC
IC3101 KIA7809API
Q3101
DRIVE
P.CON+9V
P.CON+8V_A
5V REG. IC
IC3002 KIA7805API
L3001
MOTOR+12V(AT+12V)
Q3006
DRIVE
Q3001
AT+11.5V
P.CON+5V_C
DRIVE
AT+11V
3.3V CTL
P.CON+3.3V
Q3008

Y/C/AUDIO/HEAD AMP/SECAM CHROMA BLOCK DIAGRAM

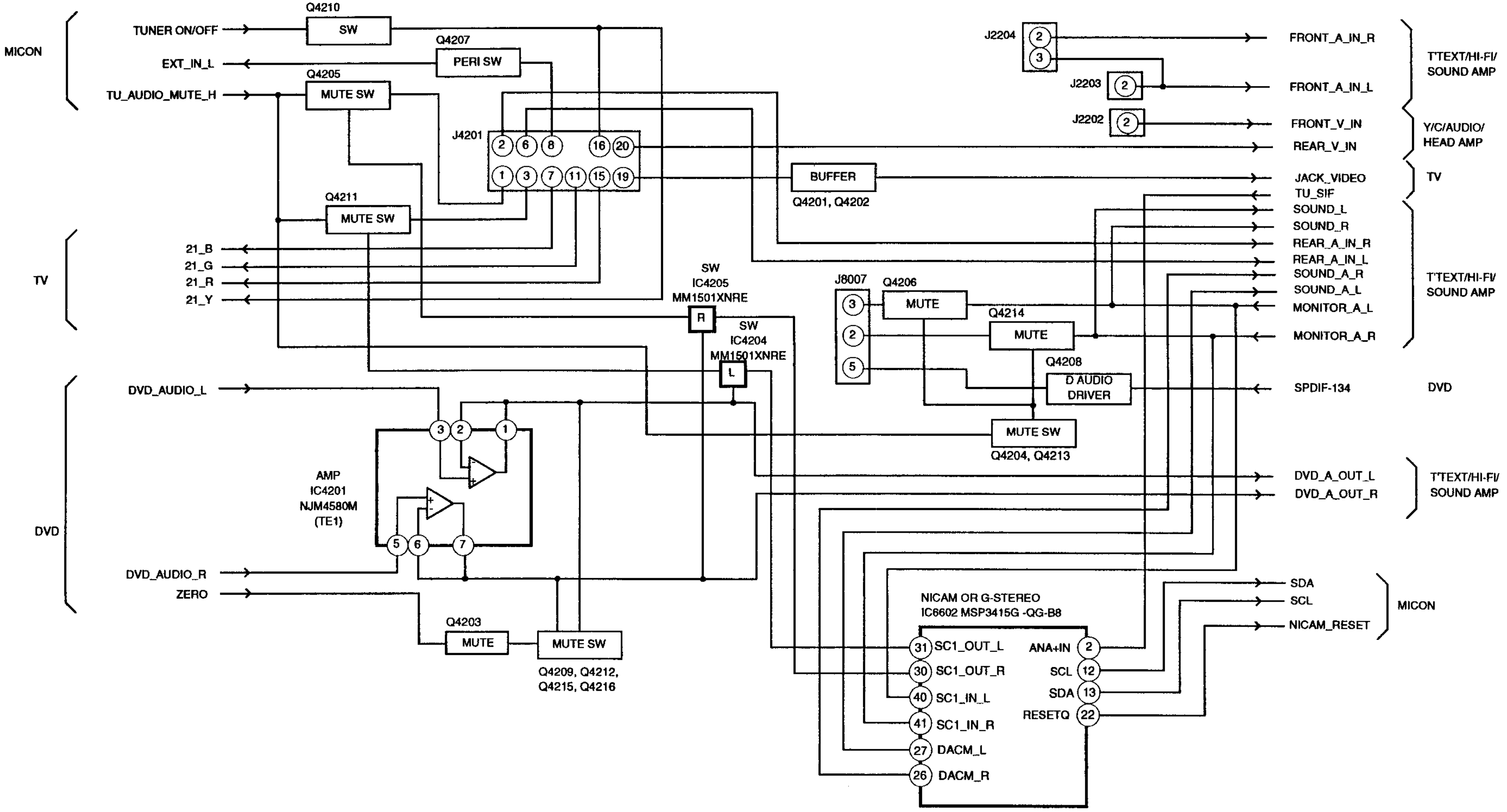


SECAM CHROMA IC
IC2801 LA70100M-MPB
Q4606
BUFFER
Y/C VIDEO
T'TEXT/ HI-FI/ SOUND AMP
Y/C AUDIO
HF2
HF_COM
HF1
Q2804
BUFFER
Q2806
VV.SW
CP4501
9 HF1 (R)
8 HF_COM
7 HF2 (L)
6 SP-CH1 (R)
5 SP_COM
4 SP-CH2 (L)
3 EP/LP-CH1 (R)
2 EP/LP_COM
1 EP/LP-CH2 (L)
CYL
Q4508
BUFFER
SUB LPF
MAIN DE-EM
LPF
Y CCD
GCL
DO
V AMP
SQUELCH
Clear SYNC
V FBC/ VALC
629 TRAP
FM AGC
P/Q EQ
DLIM
DEMO
Y-LPF
N.L DE-EM
YLR
REC+DO
H.AMP
REC MUTE
REC Filter
NL E MPH
DEM
VV_H
SCL
SDA
H_SW
ENV. DET
V.REC_ST-H
MICON
HPF
ENV DET
2MLPF
ACC
CLPF1
FH HPF CT1 Trap
REC Trap HIFI Trap
C-DL
Main Conv1
BPF
Pilot Erase
B.D.
NP-CONV
C.K.
NC
CP4503
2 FE HEAD (GND)
1 FE HEAD (HOT)
Q4607
AMP
LINE AMP
CP4505
Q4505~Q4507
PB SW
1 AE HEAD (–)
2 AE HEAD (+)
6 AUDIO REC
5 AUDIO PB
HEAD AUDIO CONTROL
PRE AMP
REC EQ
VCA
LPF
Trap
CK
Main Conv2
C LPF2
CCD LPF
CCD
VCA
L-DET
COIL, BIAS OSC
L4503
Q4502
OSC
Q4501
NORMAL A. REC ST SW
T'TEXT/ HI-FI/ SOUND AMP
NORMAL_A
XTAL VCO/OSC
Y/C/AUDIO/HEAD AMP IC
IC4501 HA118225F
Q4508
BUFFER
X4501
4.433619MHz
TV
TU_VIDEO
DEMODULATO R/21PIN/NICAM
FRONT_V_IN
REAR_V_IN
DVD
DVD_VIDEO
MICON
D_V_SYNC
C_SYNC
SECAM_SW
SECAM-H
MESECAM-M
P
R

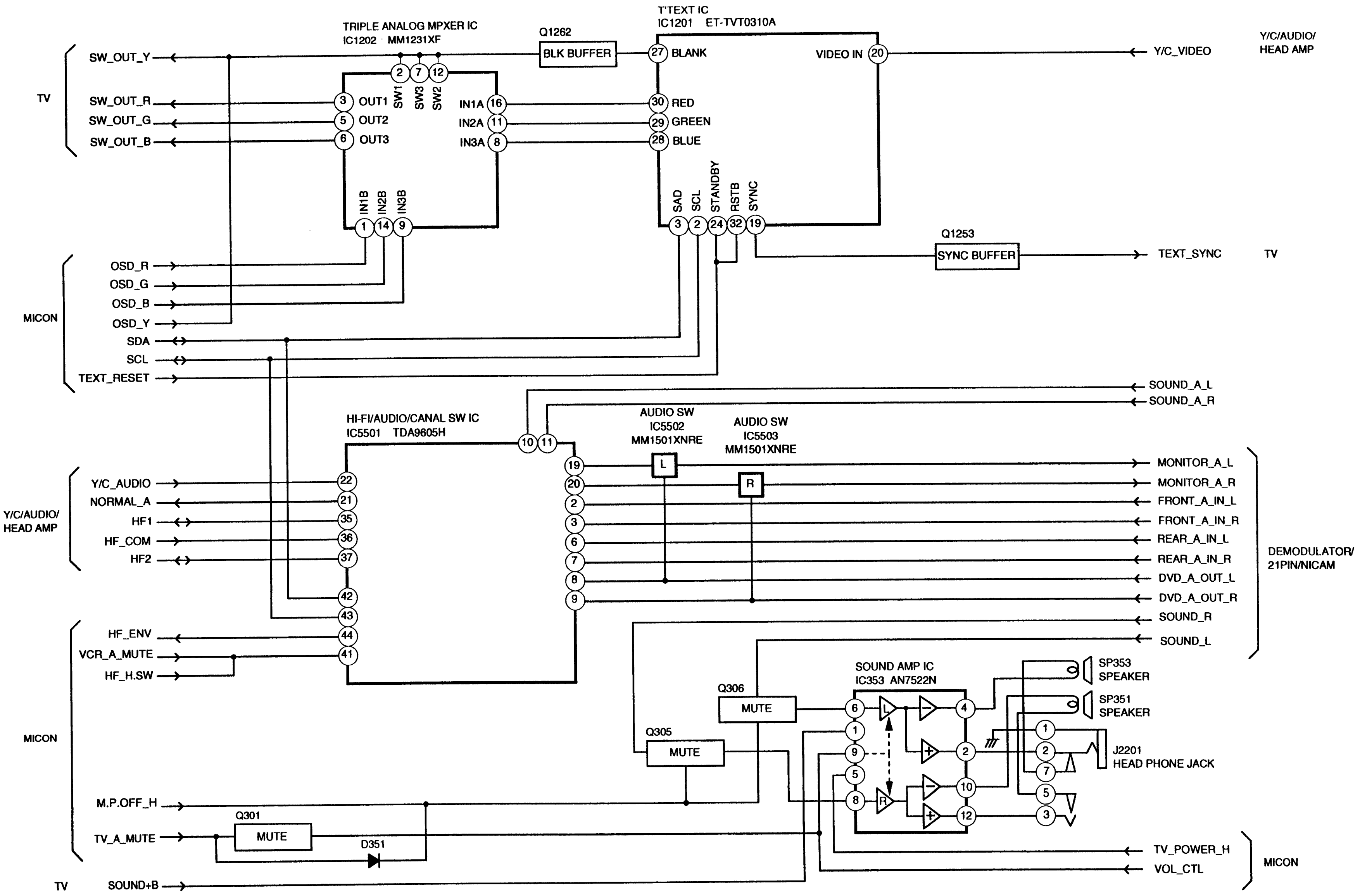
MICON BLOCK DIAGRAM


SYSCON/TIMER/SERVO
IC1006 OEC0144A
SW1001
(50) TAB SW
AT+5.6V
(31) MS SEN-A
MS_SEN A
Q1009
AT+5.6V
(32) MS SEN-B
MS_SEN B
Q1003
(40) REEL T
REEL SENS.
Q1005
(39) REEL S
REEL SENS.
Q1001
(76) X1
X1002
32.768KHz
(75) X2
(80) OSC2
X1001
10MHz
(78) OSC1
Q1011
BUFFER
VCR_POWER_H
(95) VCR_POWER_ON-H
SECAM_VL-H
(71) SECAM VL-H
TV
H CTL
(98) H CONTROL
DEGAUSS_H
(44) DEGAUSS
(102) FF/REW-L
Q1004
SW
(7) CTLAMP (O)
AT+12V
CP1001
1 CAP FG
2 CAP VCO
4 CAP.M F/R
5 I LIMIT
8 CYL/LAD VCO
9 CAP CTL
10 LDM CTL
11 CYL FG/PG
12 CYL CTL
DECK
(9) CFG
(88) CAP_FWD_L
(84) CAP_LIMIT
(87) CAP_FULL
(83) LDM_CTL
(104) DFG/DPG
(107) DRUM_PWM
D1003
Q1017
BOT SENSOR
Q1006
EOT SENSOR
(27) EOT
(35) BOT
Q1002
CENT LED SW
(52) CENT LED
TX
RX
DVD
DVD RESET
(64) TX
(65) RX
(97) DVD RESET
POWER FAIL (37)
MO_SYNC IN (38)
TUNER_AGC (30)
DA RGB SW (94)
EXT_IN_L (54)
TUNER_MUTE (63)
V.REC START-H (91)
VIDEO H.SW (105)
VIDEO_ ENV (28)
DUMM_V.SYNC (109)
C.SYNC (111)
TEXT RESET (51)
HIFI ENV (25)
HIFI H SW (106)
VCR_MUTE (90)
B (101)
G (100)
R (99)
YCO (96)
RESET (77)
IIC_DATA_0 (62)
IIC_CLK_0 (61)
HSYNC (14)
VSYNC (15)
DVD POWER-H (103)
VOLUME PWM (85)
TV_MUTE (53)
KEY-A (33)
KEY-B (34)
REMOCON_IN (43)
REC/OTR_ LED (48)
T-REC LED (47)
STAND BY (45)
Q1007
BUFFER
POWER_FAIL (DC)
AGC_M
TV
TUNER_ON/OFF
EXT_IN_L
TU_AUDIO_MUTE_H
DEMODULATOR/
21PIN/NICAM
V. REC_ST_H
H. SW
ENV_DET
D_V.SYNC
C.SYNC
Y/C/AUDIO/
HEAD AMP
TEXT RESET
Q1010
SW
M.P.OFF_H
HF ENV
HF H SW
VCR_A_MUTE
OSD_B
OSD_G
OSD_R
OSD_Y
T'TEXT/HI-FI/
SOUND AMP
(1) OUT
SYSTEM RESET
IC1003
PST3231NR
SCL
SDA
EEP ROM
IC1099
AT24C08AN-10SI-2.7
(5) SDA
(6) SCL
SCL
SDA
Y/C/AUDIO/
HEAD AMP
Q1016
HD SW
HD
Q1015
VD SW
VD
TV
DVD POWER-H
VOL_CTL
TV_A_MUTE
T'TEXT/HI-FI/
SOUND AMP
VOL UP
CH DOWN
REC/OTR
FF
PLAY
STOP/EJECT
REW
POWER
SKIP FF
DVD PLAY
DVD STOP
SKIP REW
CH UP
VOL DOWN
OPEN/CLOSE
OS2202
D2204
D2203
D2201
AT + 5.6V

DEMODULATOR/21PIN/NICAM BLOCK DIAGRAM


MICON
TUNER ON/OFF
EXT_IN_L
TU_AUDIO_MUTE_H
Q4210
SW
Q4207
PERI SW
Q4205
MUTE SW
J4201
2
6
8
16
20
1
3
7
11
15
19
Q4211
MUTE SW
TV
21_B
21_G
21_R
21_Y
SW
IC4205
MM1501XNRE
R
SW
IC4204
MM1501XNRE
L
BUFFER
Q4201, Q4202
J2204
J2203
J2202
FRONT_A_IN_R
FRONT_A_IN_L
T'TEXT/HI-FI/
SOUND AMP
FRONT_V_IN
REAR_V_IN
Y/C/AUDIO/
HEAD AMP
JACK_VIDEO
TU_SIF
TV
SOUND_L
SOUND_R
REAR_A_IN_R
REAR_A_IN_L
SOUND_A_R
SOUND_A_L
MONITOR_A_L
MONITOR_A_R
T'TEXT/HI-FI/
SOUND AMP
J8007
Q4206
MUTE
Q4214
MUTE
Q4208
D AUDIO
DRIVER
SPDIF-134
DVD
MUTE SW
Q4204, Q4213
DVD_A_OUT_L
DVD_A_OUT_R
T'TEXT/HI-FI/
SOUND AMP
DVD
DVD_AUDIO_L
AMP
IC4201
NJM4580M
(TE1)
DVD_AUDIO_R
ZERO
Q4203
MUTE
MUTE SW
Q4209, Q4212,
Q4215, Q4216
SDA
SCL
NICAM_RESET
MICON
NICAM OR G-STEREO
IC6602 MSP3415G -QG-B8
31 SC1_OUT_L
30 SC1_OUT_R
40 SC1_IN_L
41 SC1_IN_R
27 DACM_L
26 DACM_R
ANA+IN 2
SCL 12
SDA 13
RESETQ 22

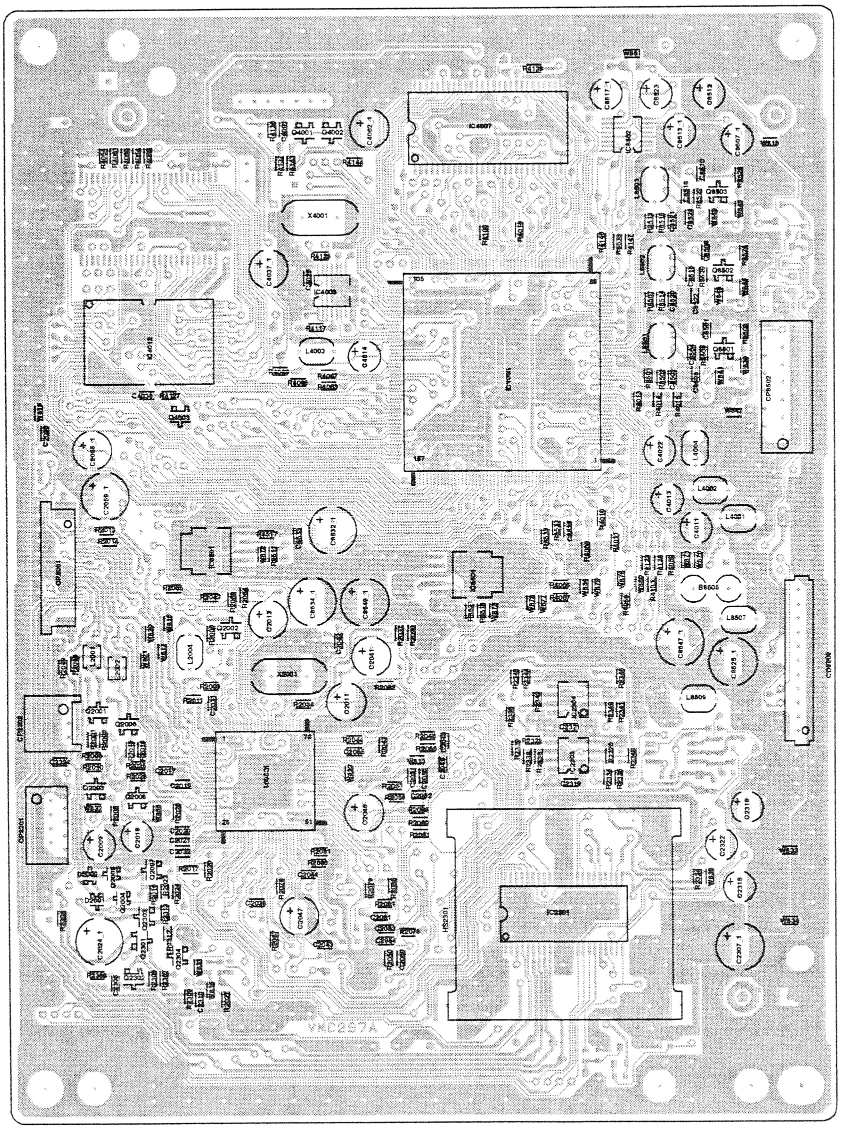
T'TEXT/HI-FI/SOUND AMP BLOCK DIAGRAM



TV
SW_OUT_Y
SW_OUT_R
SW_OUT_G
SW_OUT_B
TRIPLE ANALOG MPXER IC
IC1202 MM1231XF
OUT1
OUT2
OUT3
SW1
SW3
SW2
IN1A
IN2A
IN3A
IN1B
IN2B
IN3B
Q1262
BLK BUFFER
T'TEXT IC
IC1201 ET-TVT0310A
BLANK
RED
GREEN
BLUE
SAD
SCL
STANDBY
RSTB
SYNC
VIDEO IN
Y/C_VIDEO
Y/C/AUDIO/
HEAD AMP
Q1253
SYNC BUFFER
TEXT_SYNC
TV
MICON
OSD_R
OSD_G
OSD_B
OSD_Y
SDA
SCL
TEXT_RESET
SOUND_A_L
SOUND_A_R
HI-FI/AUDIO/CANAL SW IC
IC5501 TDA9605H
AUDIO SW
IC5502
MM1501XNRE
AUDIO SW
IC5503
MM1501XNRE
L
R
Y/C/AUDIO/
HEAD AMP
Y/C_AUDIO
NORMAL_A
HF1
HF_COM
HF2
MONITOR_A_L
MONITOR_A_R
FRONT_A_IN_L
FRONT_A_IN_R
REAR_A_IN_L
REAR_A_IN_R
DVD_A_OUT_L
DVD_A_OUT_R
SOUND_R
SOUND_L
DEMODULATOR/
21PIN/NICAM
MICON
HF_ENV
VCR_A_MUTE
HF_H.SW
SOUND AMP IC
IC353 AN7522N
Q306
MUTE
Q305
MUTE
SP353
SPEAKER
SP351
SPEAKER
J2201
HEAD PHONE JACK
M.P.OFF_H
Q301
MUTE
TV_A_MUTE
D351
TV_POWER_H
VOL_CTL
MICON
TV
SOUND+B

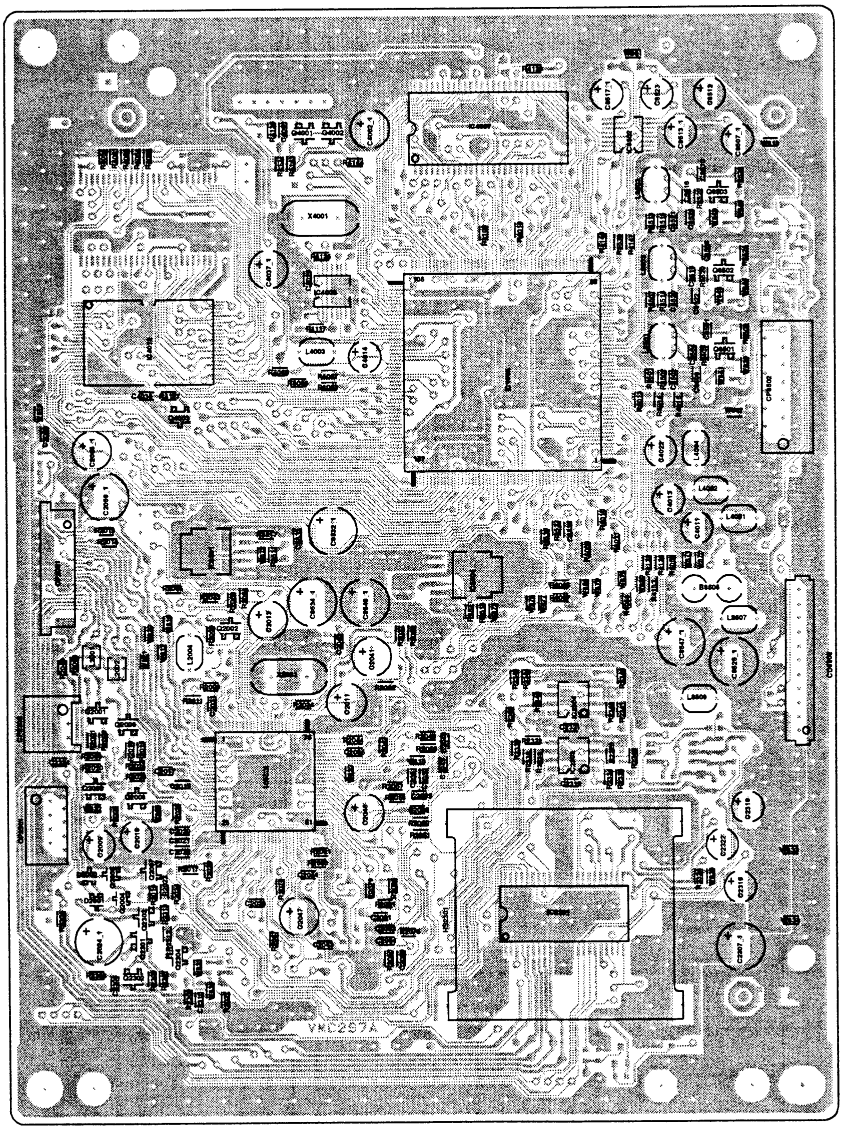
PRINTED CIRCUIT BOARDS

DVD (TOP SIDE)



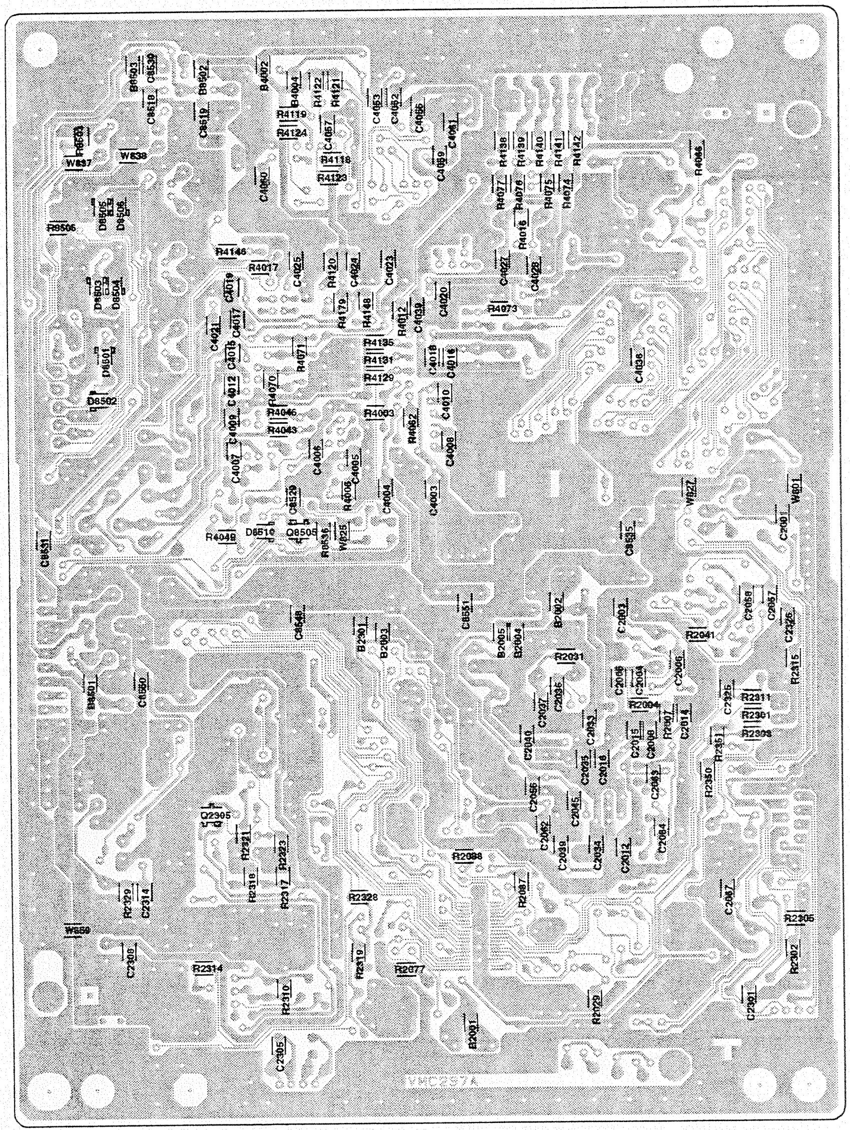
PRINTED CIRCUIT BOARDS

DVD (TOP SIDE)

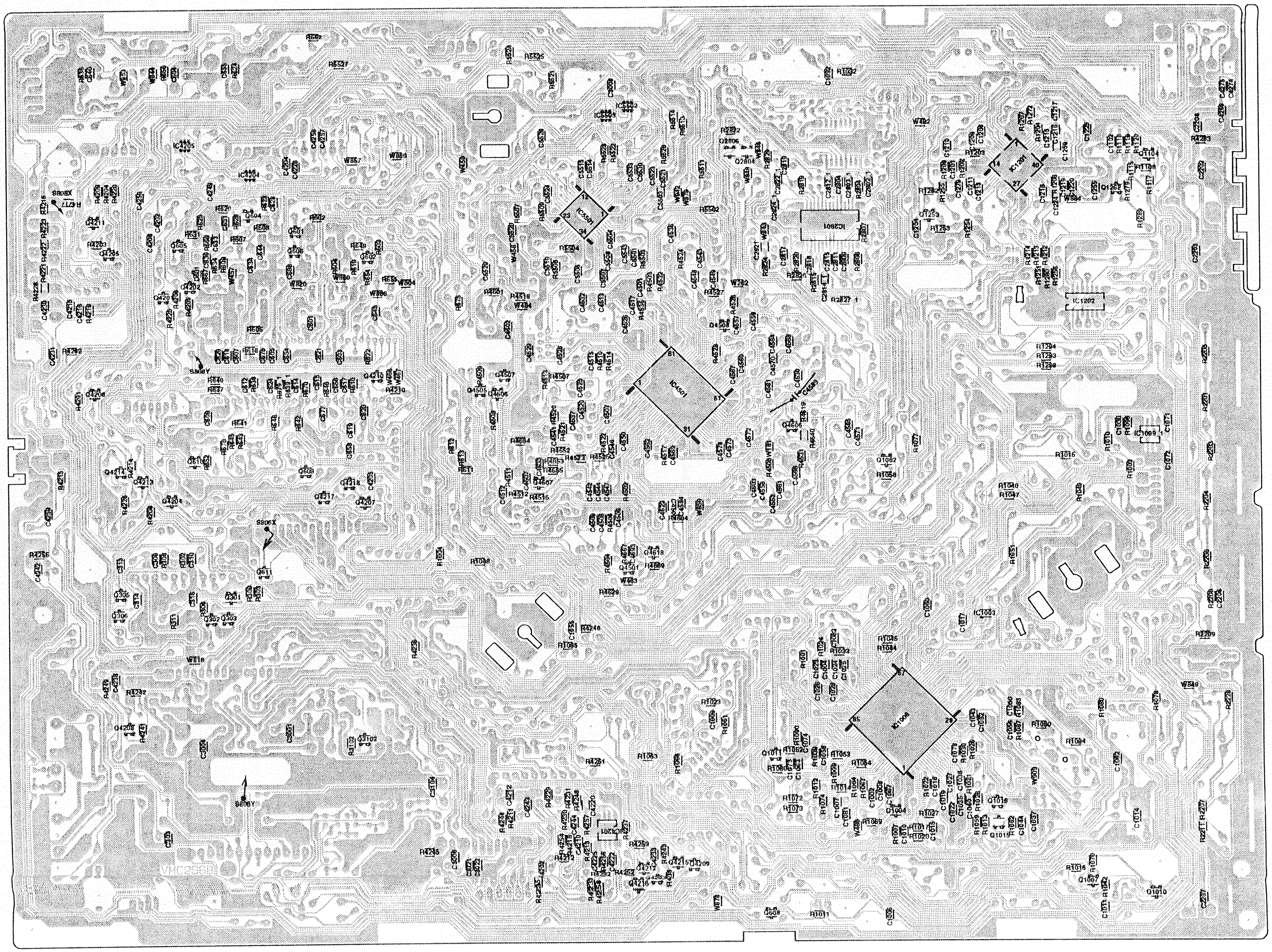


PRINTED CIRCUIT BOARDS

DVD (BOTTOM SIDE)

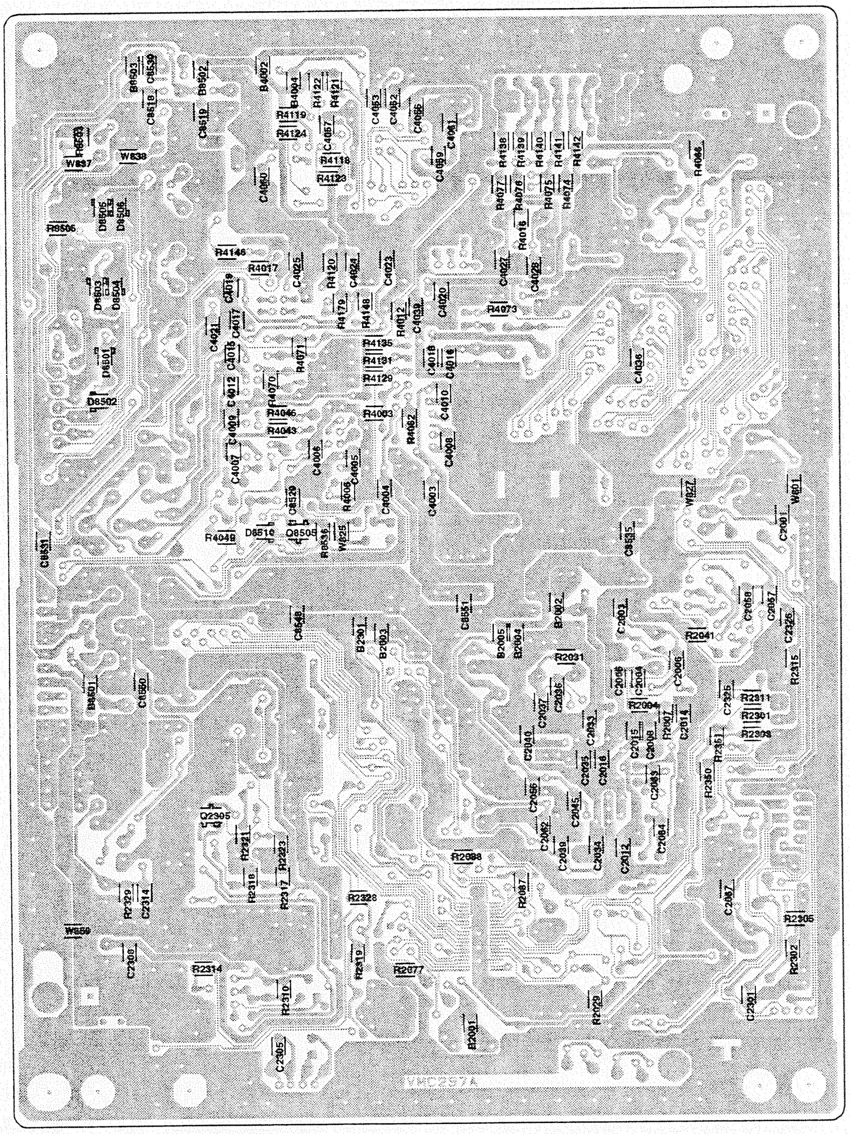


PRINTED CIRCUIT BOARDS
VCR (CHIP MOUNTED PARTS)
SOLDER SIDE

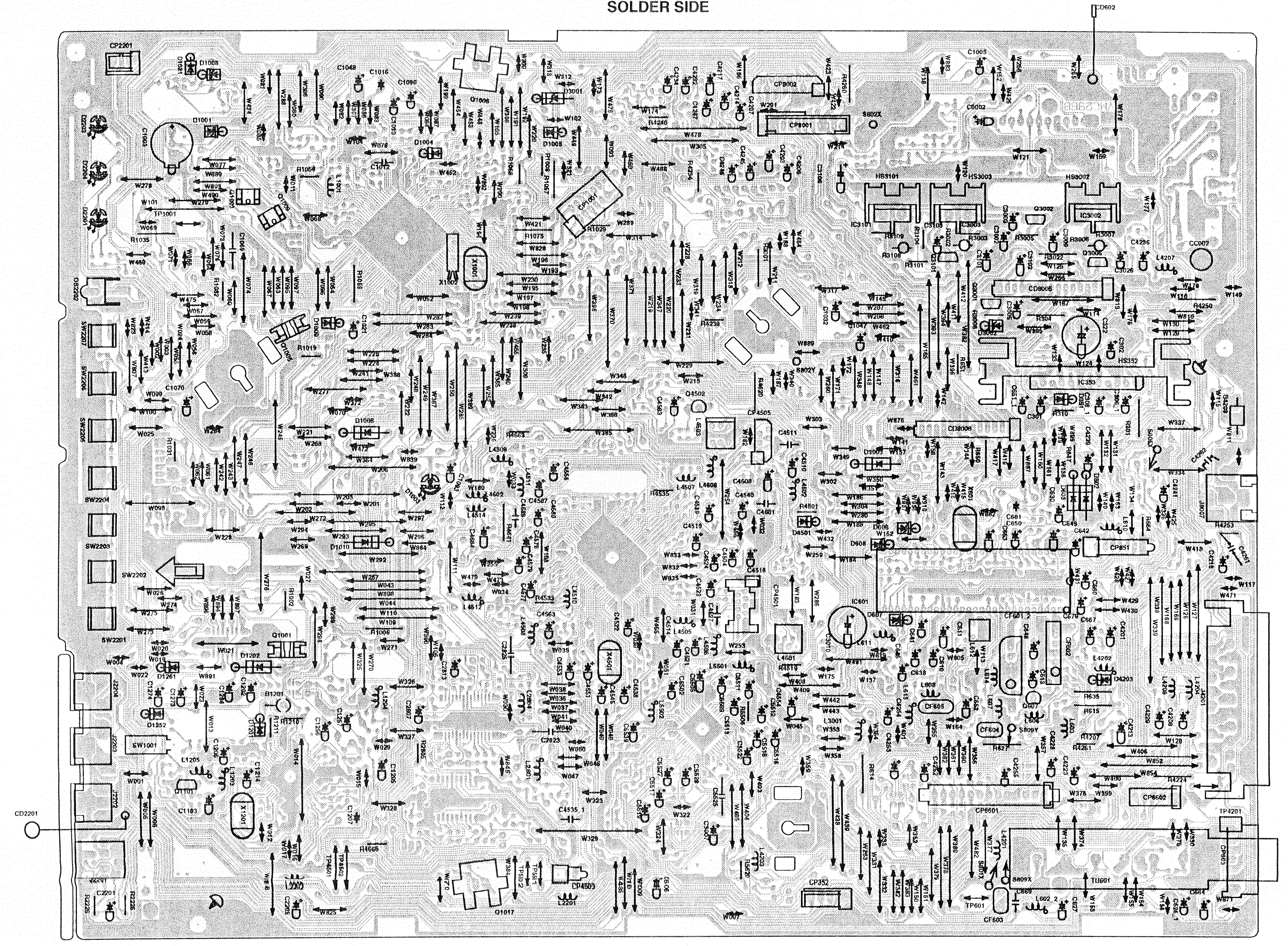


PRINTED CIRCUIT BOARDS

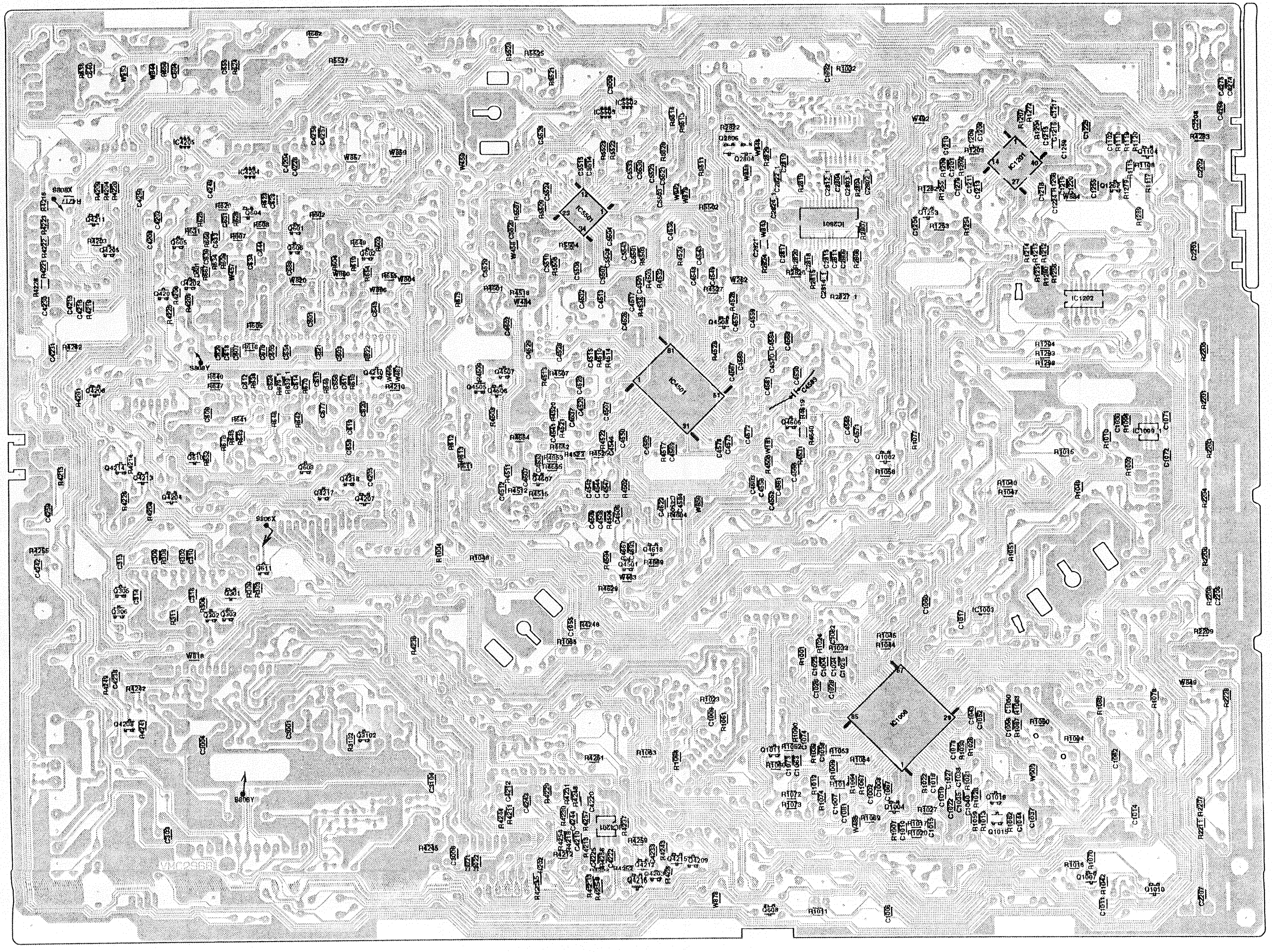
DVD (BOTTOM SIDE)



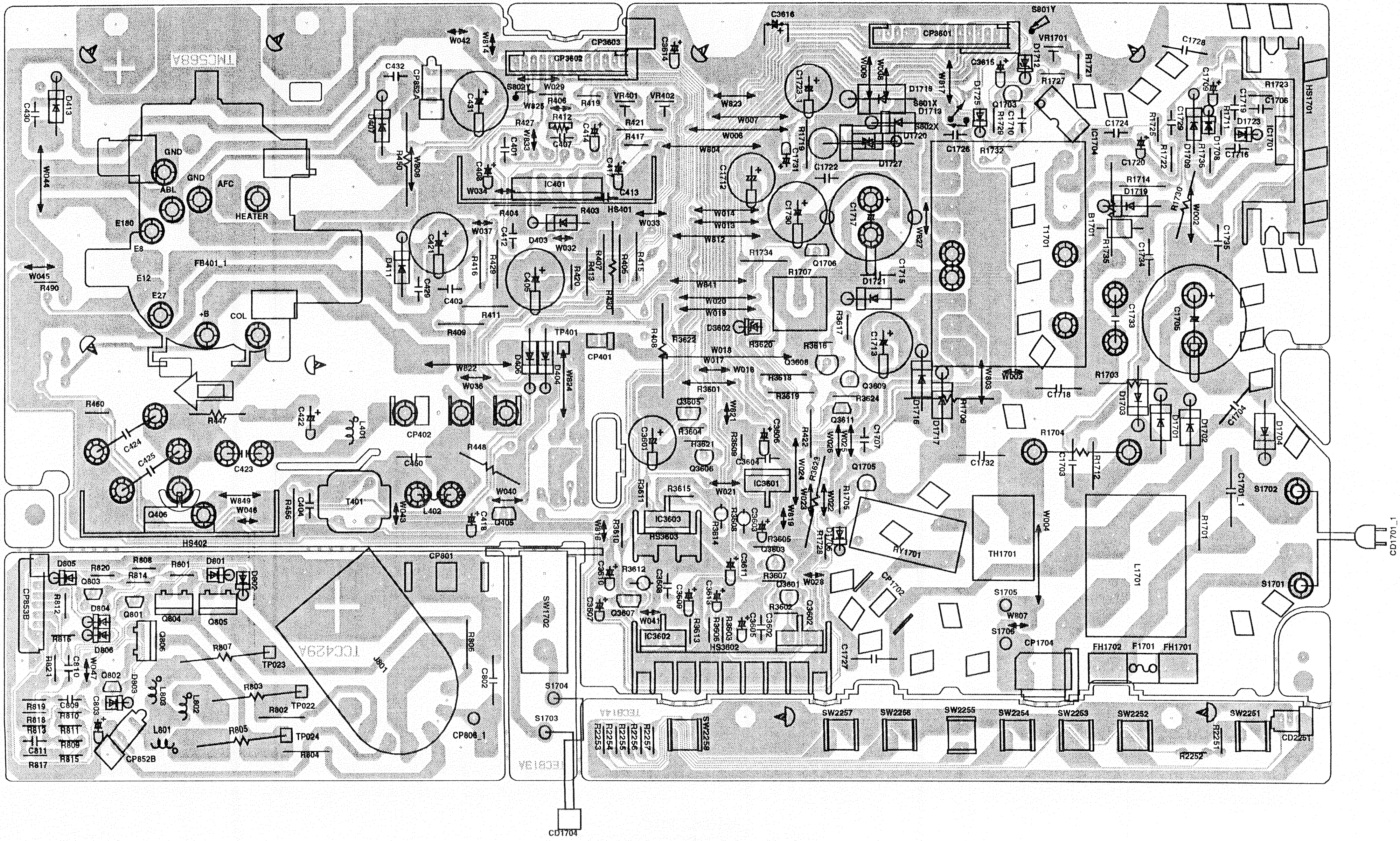
PRINTED CIRCUIT BOARDS
VCR (INSERTED PARTS)
SOLDER SIDE


CD602
CD2201
CP2201
D1001
C1005
TP1001
SW2201
SW2202
SW2203
SW2204
SW2205
SW2206
SW2207
SW1001
X1001
X1201
CP1001
Q1001
D1010
CP8002
CP8001
HS3101
HS3003
HS3002
IC3101
IC3002
CD9005
IC353
HS352
CD8006
CP851
IC601
CF601_2
CF602
CF605
CF604
CP6601
CP6602
TP4201
CP603
TU601
S809X
TP601
CF603
CP352
CP4503
Q1017
L2201
W825
C2201

PRINTED CIRCUIT BOARDS
VCR (CHIP MOUNTED PARTS)
SOLDER SIDE

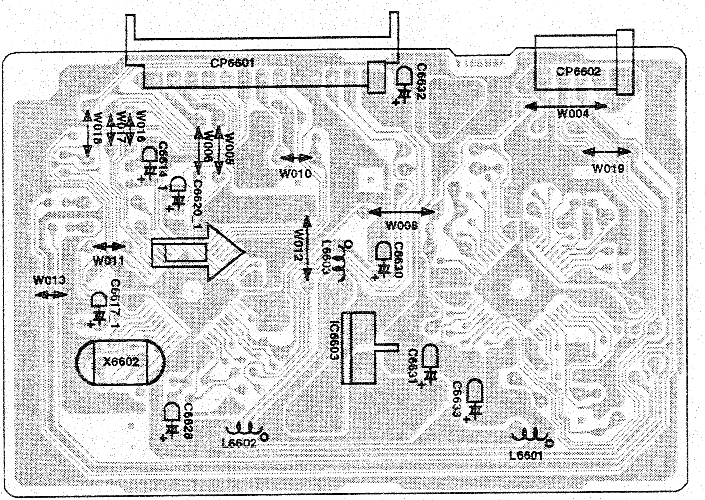


PRINTED CIRCUIT BOARDS
MAIN/CRT/OPERATION/POWER
SOLDER SIDE

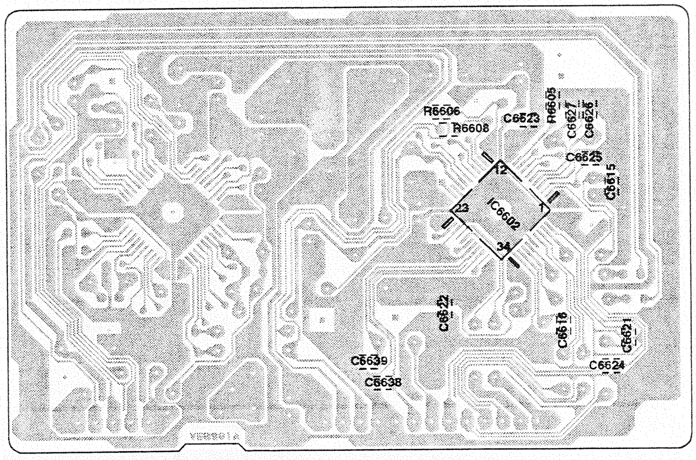

C430
D413
W044
GND
GND
ABL
AFC
HEATER
E180
E8
FB401_1
E12
W045
R490
E27
+B
COL
R460
R447
C424
C425
C423
Q406
HS402
W849
W046
R456
C404
T401
W043
L402
C418
Q405
W040
R448
C450
CP402
L401
C422
W822
W036
D405
D404
W834
TP401
CP401
R409
R411
C403
C429
D411
C421
W037
R416
R429
C405
R420
R413
R407
R405
R430
R415
C412
D403
W032
R404
R403
HS401
W033
IC401
W034
C408
C401
W833
R427
C407
R412
R406
W825
S802Y
W029
R419
VR401
VR402
R421
R417
C414
C417
C413
C431
C432
CP852A
D407
R450
W808
W042
W814
CP3603
CP3602
C3614
C3616
CP3601
S801Y
VR1701
D1712
C3615
R1721
R1727
Q1703
C1710
R1726
D1725
S801X
D1713
S802X
D1715
D1720
D1727
W809
W805
W817
W823
W007
W006
W804
R1716
C1731
C1723_1
C1722
C1712
W014
W013
W812
R1734
C1730
C1717
W827
Q1706
R1707
D1721
C1715
W841
W020
W019
D3602
R3620
R3622
R3617
R3616
C1713
R408
Q3608
W018
W017
W016
R3618
R3601
R3619
Q3609
R3624
Q3605
C3607
R3604
R3621
Q3606
R3609
C3606
C3604
R422
W026
W025
Q3611
C1707
W024
R3623
IC3601
W021
R3615
R3611
IC3603
HS3603
W816
R3610
R3603
R3614
C3603
R3605
W819
W022
W023
R1705
Q1705
D1706
R1723
R3612
Q3603
R3607
Q3601
W028
C3608
C3610
C3609
C3613
C3611
C3607
Q3607
W041
IC3602
HS3602
R3613
R3606
R3608
C3605
C3602
R3602
Q3602
C1727
RY1701
CP1702
TH1701
W004
S1705
W807
S1706
CP1704
FH1702
F1701
FH1701
L1701
S1701
S1702
C1701_1
R1701
CD1701_1
C1732
C1703
R1712
R1704
C1704
D1704
D1701
D1702
D1703
R1703
C1718
W003
W803
D1716
D1717
R1706
T1701
B1701
R1735
C1734
C1733
C1706
C1735
W002
R1730
D1719
R1714
C1720
R1722
R1725
IC1704
C1724
C1726
R1732
C1728
C1709
R1723
C1705
C1719
R1711
D1723
D1708
R1736
D1709
C1729
C1716
IC1701
HS1701
CP853B
D805
R820
Q803
R808
R814
R801
D801
D802
R812
D804
Q801
Q804
Q805
R816
D806
Q806
R821
C810
W047
Q802
D803
L803
C803
R819
C809
R818
R810
R813
R811
C811
R809
R817
R815
CP852B
L801
L802
R807
TP023
R803
TP022
R802
R805
TP024
R804
J801
CP801
R806
C802
CP806_1
SW1702
S1704
S1703
CD1704
SW2258
R2253
R2254
R2255
R2256
R2257
SW2257
SW2256
SW2255
SW2254
SW2253
SW2252
SW2251
CD2251
R2251
R2252

PRINTED CIRCUIT BOARDS

STEREO (INSERTED PARTS)
SOLDER SIDE

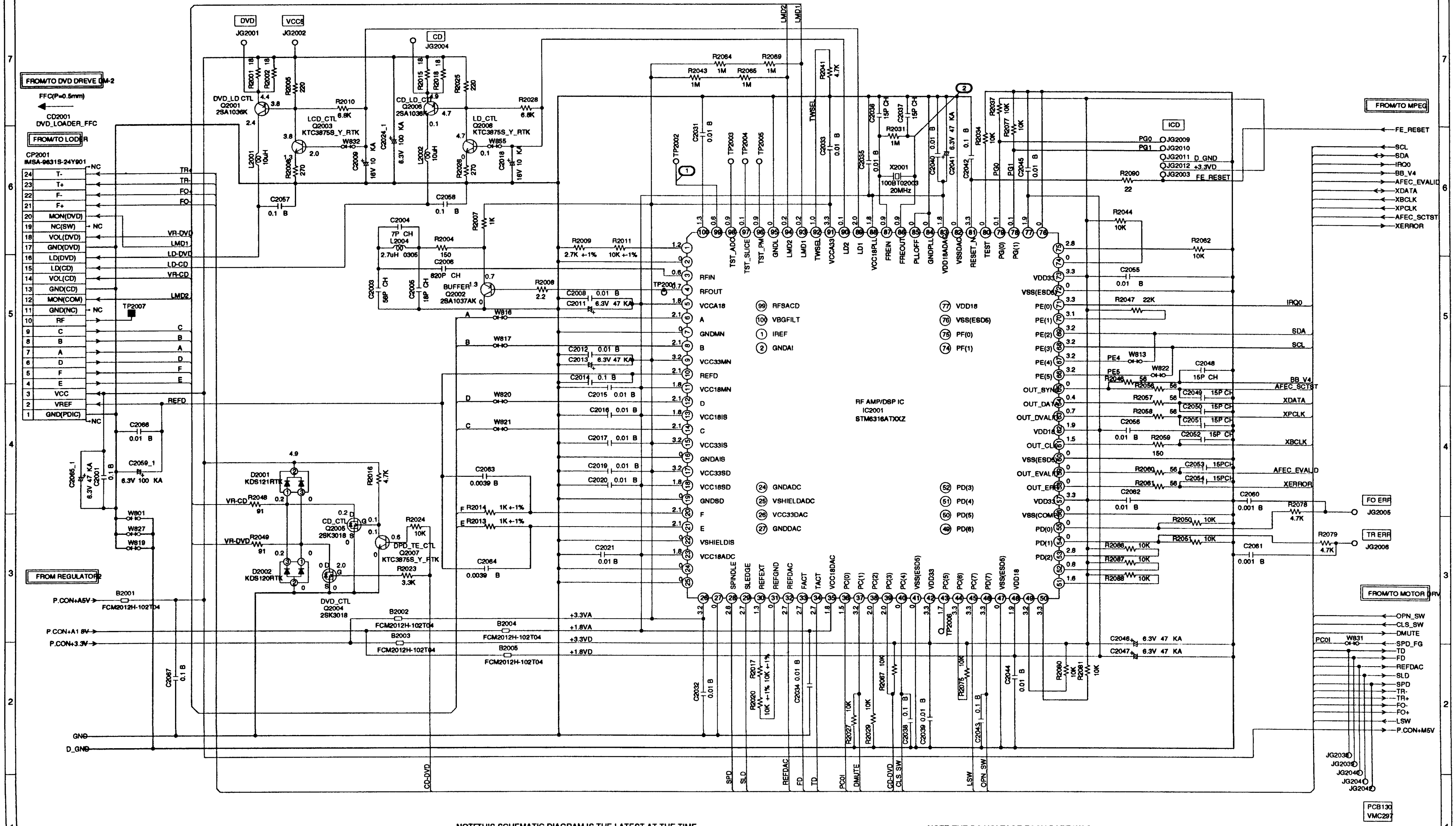

CP6601
C6632
CP6602
W004
W018
W017
W016
C6614_1
W006
W005
W010
W019
C6620_1
W008
W012
L6603
W011
C6630
W013
C6617_1
IC6603
X6602
C6631
C6633
C6628
L6602
L6601

STEREO (CHIP MOUNTED PARTS)
SOLDER SIDE


R6606
R6608
C6623
R6605
C6627
C6626
C6625
C6615
12
IC6602
23
1
34
C6622
C6618
C6621
C6639
C6624
C6638

RF_AMP/DSP SCHEMATIC DIAGRAM

(DVD PCB)

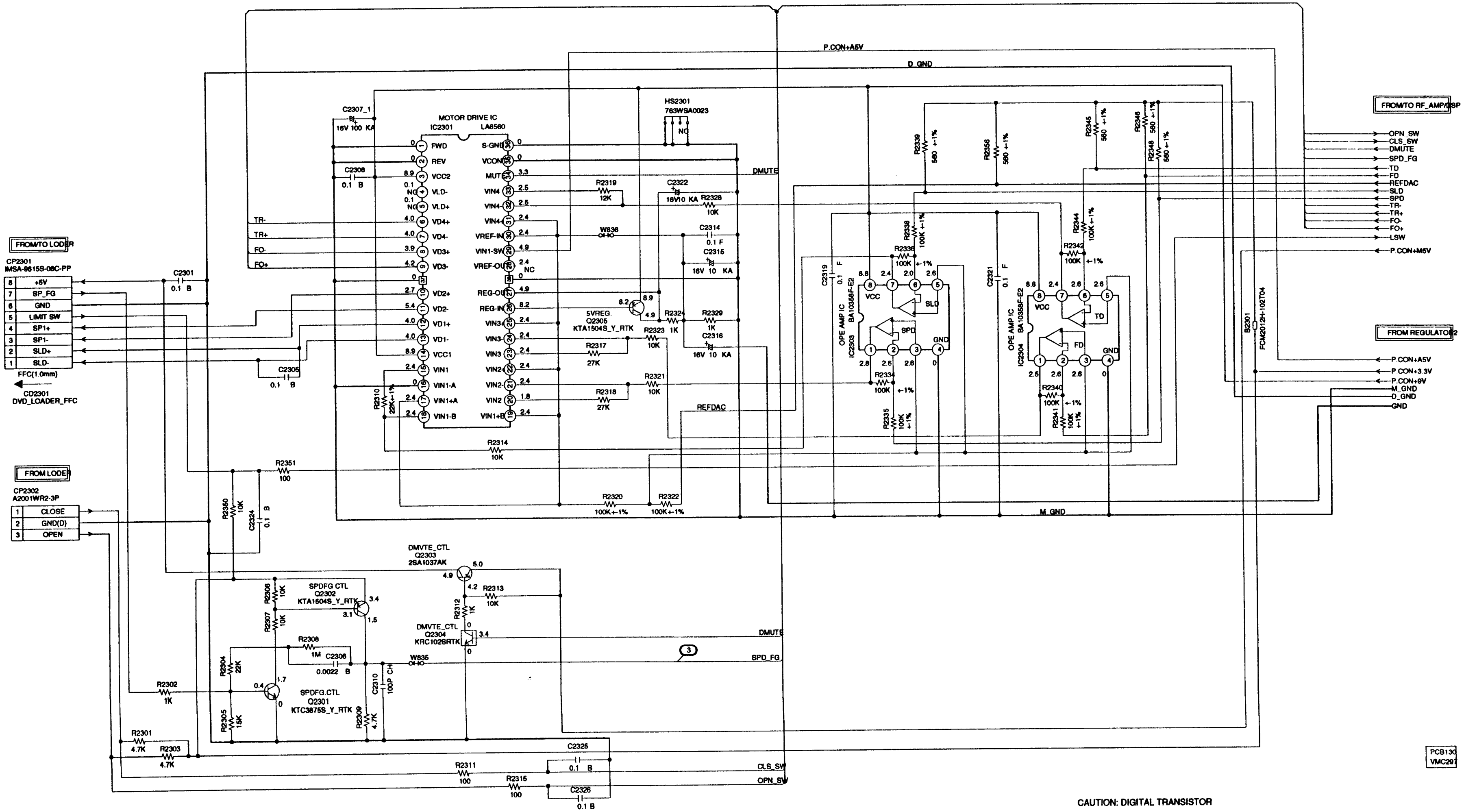

FROM/TO DVD DREVE DM-2
FFC(P=0.5mm)
CD2001
DVD_LOADER_FFC
FROM/TO LODER
CP2001
IMSA-9631S-24Y901
24 T-
23 T+
22 F-
21 F+
20 MON(DVD)
19 NC(SW)
18 VOL(DVD)
17 GND(DVD)
16 LD(DVD)
15 LD(CD)
14 VOL(CD)
13 GND(CD)
12 MON(COM)
11 GND(NC)
10 RF
9 C
8 B
7 A
6 D
5 F
4 E
3 VCC
2 VREF
1 GND(PDIC)
TP2007
DVD
JG2001
VCC5
JG2002
CD
JG2004
DVD_LD CTL
Q2001
2SA1036K
LCD_CTL
Q2003
KTC3875S_Y_RTK
CD_LD_CTL
Q2006
2SA1036K
LD_CTL
Q2008
KTC3875S_Y_RTK
BUFFER
Q2002
2SA1037AK
D2001
KDS121RTK
D2002
KDS120RTK
CD_CTL
Q2005
2SK3018
DVD_CTL
Q2004
2SK3018
DPD_TE_CTL
Q2007
KTC3875S_Y_RTK
FROM REGULATOR2
P.CON+A5V
P.CON+A1.8V
P.CON+3.3V
GND
D_GND
FCM2012H-102T04
+3.3VA
+1.8VA
+3.3VD
+1.8VD
RF AMP/DSP IC
IC2001
STM6316ATXXZ
X2001
100BT02003
20MHz
ICD
PG0 JG2009
PG1 JG2010
JG2011 D_GND
JG2012 +3.3VD
JG2003 FE_RESET
FROM/TO MPEG
FE_RESET
SCL
SDA
IRQ0
BB_V4
AFEC_EVALID
XDATA
XBCLK
XPCLK
AFEC_SCTST
XERROR
FO ERR
JG2005
TR ERR
JG2006
FROM/TO MOTOR DRV
OPN_SW
CLS_SW
DMUTE
SPD_FG
TD
FD
REFDAC
SLD
SPD
TR-
TR+
FO-
FO+
LSW
P.CON+M5V
JG2038
JG2039
JG2040
JG2041
JG2042
PCB130
VMC297

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

MOTOR DRV SCHEMATIC DIAGRAM

(DVD PCB)

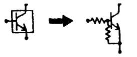

MOTOR DRIVE IC
IC2301 LA6560
FWD
REV
VCC2
VLD-
VLD+
VD4+
VD4-
VD3+
VD3-
VD2+
VD2-
VD1+
VD1-
VCC1
VIN1
VIN1-A
VIN1+A
VIN1-B
S-GND
VCONT
MUTE
VIN4
VIN4-
VIN4+
VREF-IN
VIN1-SW
VREF-OUT
NC
REG-OUT
REG-IN
VIN3+
VIN3-
VIN3
VIN2+
VIN2-
VIN2
VIN1+B
C2307_1
16V 100 KA
C2308
0.1 B
HS2301
763WSA0023
R2319
12K
C2322
16V10 KA
R2328
10K
W836
C2314
0.1 F
C2315
16V 10 KA
5VREG.
Q2305
KTA1504S_Y_RTK
R2324
1K
R2329
1K
R2323
1K
C2316
16V 10 KA
R2317
27K
R2321
10K
R2318
27K
REFDAC
R2310
22K+-1%
R2314
10K
R2320
100K+-1%
R2322
100K+-1%
M_GND
P.CON+A5V
D_GND
DMUTE
FROM/TO LODER
CP2301
IMSA-9615S-08C-PP
+5V
SP_FG
GND
LIMIT SW
SP1+
SP1-
SLD+
SLD-
FFC(1.0mm)
CD2301
DVD_LOADER_FFC
C2301
0.1 B
C2305
0.1 B
TR-
TR+
FO-
FO+
FROM LODER
CP2302
A2001WR2-3P
CLOSE
GND(D)
OPEN
R2351
100
R2350
10K
C2324
0.1 B
DMVTE_CTL
Q2303
2SA1037AK
R2313
10K
R2312
1K
DMVTE_CTL
Q2304
KRC102SRTK
SPDFG CTL
Q2302
KTA1504S_Y_RTK
R2306
10K
R2307
10K
R2308
1M
C2306
0.0022 B
W835
SPD_FG
R2304
22K
SPDFG.CTL
Q2301
KTC3875S_Y_RTK
R2305
15K
R2309
4.7K
C2310
100P CH
R2302
1K
R2301
4.7K
R2303
4.7K
C2325
0.1 B
R2311
100
R2315
100
C2326
0.1 B
CLS_SW
OPN_SW
R2339
560 +-1%
R2356
560 +-1%
R2345
560 +-1%
R2346
560 +-1%
R2348
560 +-1%
R2338
100K +-1%
R2336
100K +-1%
R2344
100K +-1%
R2342
100K +-1%
C2319
0.1 F
OPE AMP IC
IC2303 BA10358F-E2
VCC
SLD
SPD
GND
R2334
100K +-1%
R2335
100K +-1%
C2321
0.1 F
OPE AMP IC
IC2304 BA10358F-E2
TD
FD
R2340
100K +-1%
R2341
100K +-1%
B2301
FCM2012H-102T04
FROM/TO RF_AMP/DSP
OPN_SW
CLS_SW
DMUTE
SPD_FG
TD
FD
REFDAC
SLD
SPD
TR-
TR+
FO-
FO+
LSW
P.CON+M5V
FROM REGULATOR2
P.CON+A5V
P.CON+3.3V
P.CON+9V
M_GND
D_GND
GND

PCB130
VMC297

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

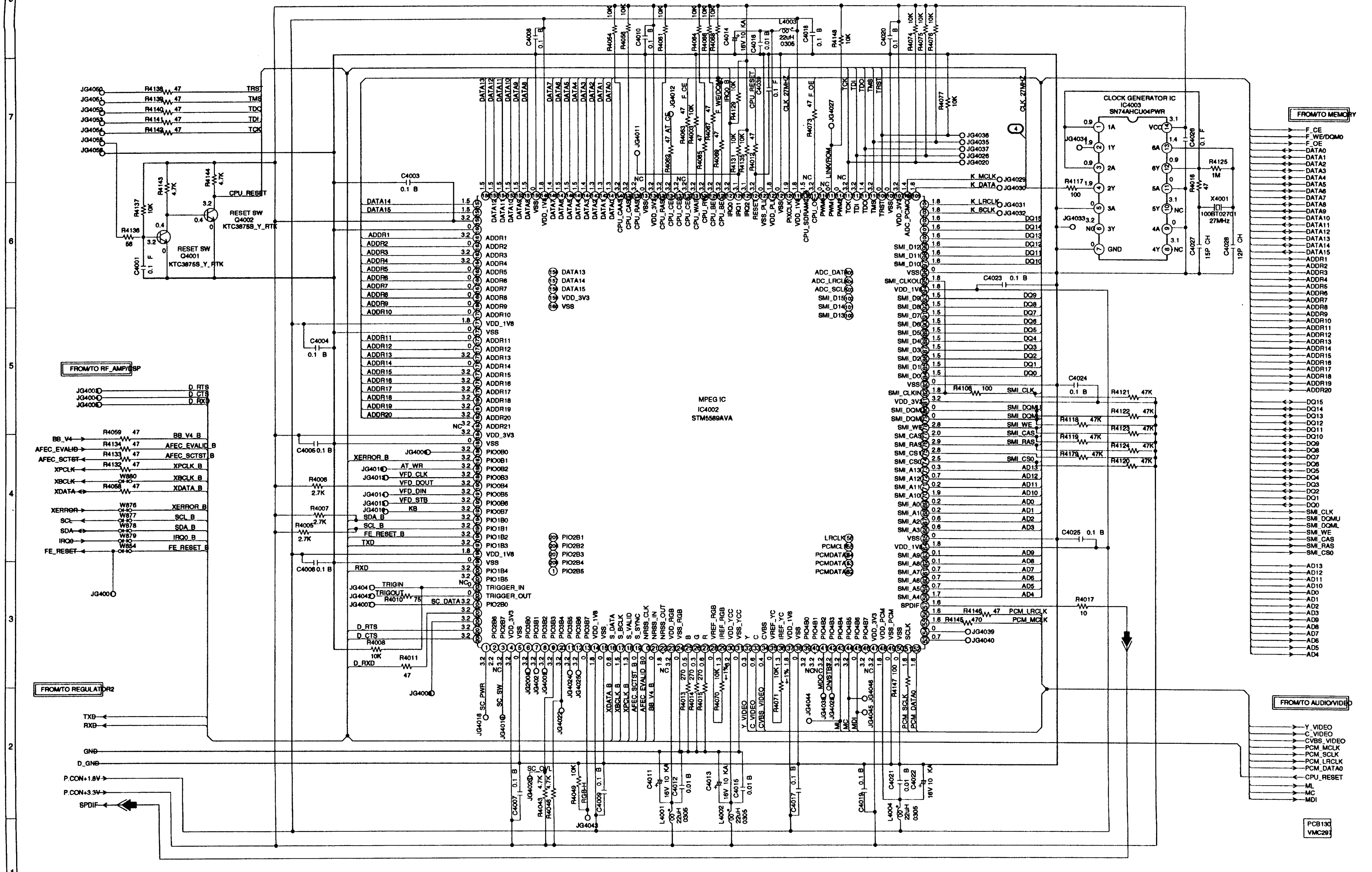
NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

CAUTION: DIGITAL TRANSISTOR



MPEG SCHEMATIC DIAGRAM

(DVD PCB)


MPEG IC
IC4002
STM5589AVA
CLOCK GENERATOR IC
IC4003
SN74AHCU04PWR
X4001
1006T02701
27MHz
RESET SW
Q4002
KTC3875S_Y_RTK
RESET SW
Q4001
KTC3875S_Y_RTK
CPU_RESET
FROM/TO RF_AMP/DSP
FROM/TO MEMORY
FROM/TO REGULATOR2
FROM/TO AUDIO/VIDEO
D_RTS
D_CTS
D_RXD
BB_V4
AFEC_EVALID
AFEC_SCTST
XPCLK
XBCLK
XDATA
XERROR
SCL
SDA
IRQ0
FE_RESET
TXD
RXD
GND
D_GND
P.CON+1.8V
P.CON+3.3V
SPDIF
F_CE
F_WE/DQM0
F_OE
DATA0
DATA1
DATA2
DATA3
DATA4
DATA5
DATA6
DATA7
DATA8
DATA9
DATA10
DATA11
DATA12
DATA13
DATA14
DATA15
ADDR1
ADDR2
ADDR3
ADDR4
ADDR5
ADDR6
ADDR7
ADDR8
ADDR9
ADDR10
ADDR11
ADDR12
ADDR13
ADDR14
ADDR15
ADDR16
ADDR17
ADDR18
ADDR19
ADDR20
DQ15
DQ14
DQ13
DQ12
DQ11
DQ10
DQ9
DQ8
DQ7
DQ6
DQ5
DQ4
DQ3
DQ2
DQ1
DQ0
SMI_CLK
SMI_DQMU
SMI_DQML
SMI_WE
SMI_CAS
SMI_RAS
SMI_CS0
AD13
AD12
AD11
AD10
AD0
AD1
AD2
AD3
AD9
AD8
AD7
AD6
AD5
AD4
Y_VIDEO
C_VIDEO
CVBS_VIDEO
PCM_MCLK
PCM_SCLK
PCM_LRCLK
PCM_DATA0
CPU_RESET
ML
MC
MDI
K_MCLK
K_DATA
K_LRCLK
K_SCLK
TRST
TMS
TDO
TDI
TCK
AT_WR
VFD_CLK
VFD_DOUT
VFD_DIN
VFD_STB
KB
TRIGIN
TRIGOUT
SC_DATA
SC_PWR
SC_SW
SC_OVL
RGB-H
PCB130
VMC297

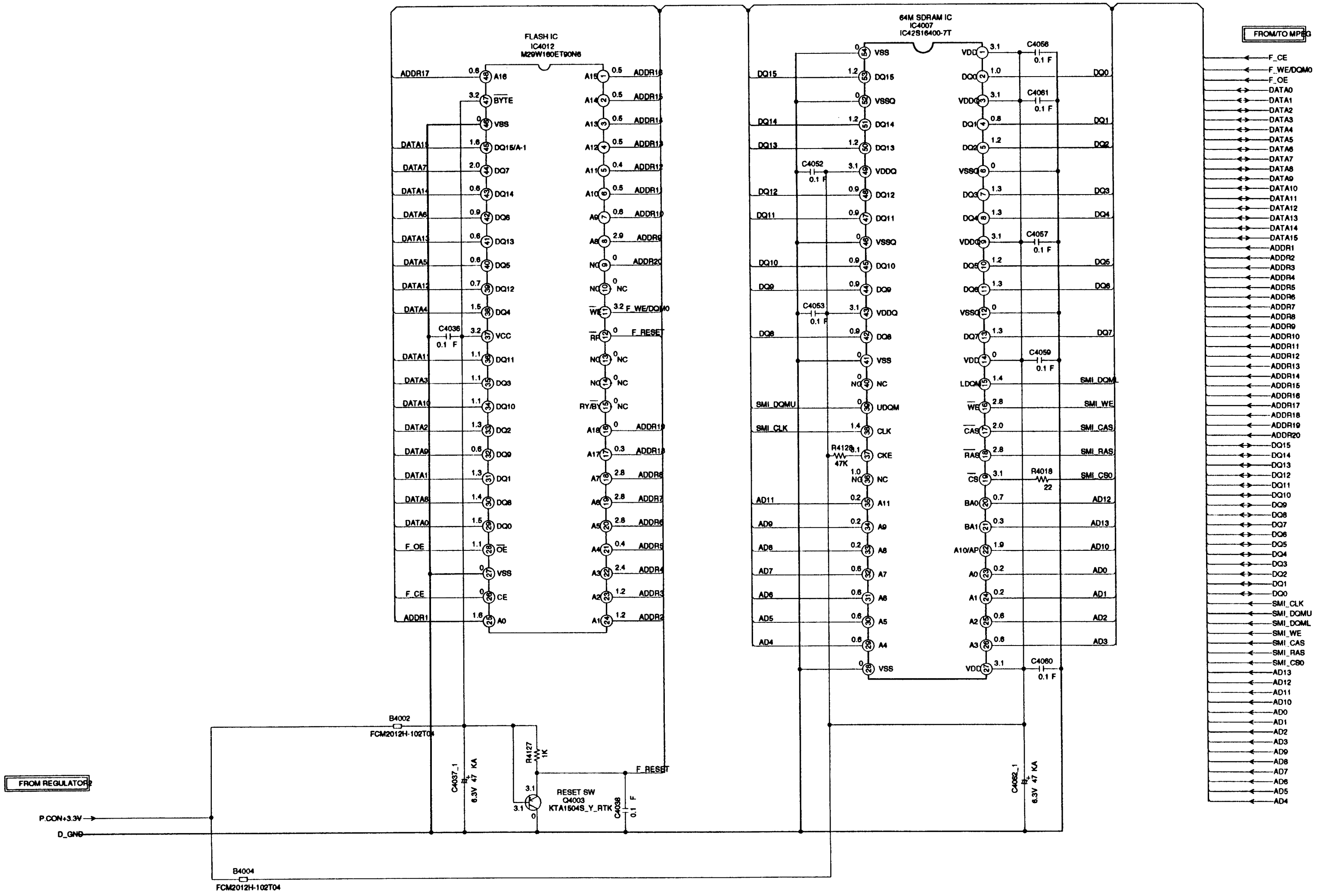
◀ DIGITAL AUDIO SIGNAL(PB)

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

MEMORY SCHEMATIC DIAGRAM

(DVD PCB)


FLASH IC
IC4012
M29W160ET90N6
64M SDRAM IC
IC4007
IC42S16400-7T
FROM/TO MPEG
FROM REGULATOR
P.CON+3.3V
D_GND
B4002
FCM2012H-102T04
B4004
FCM2012H-102T04
R4127
1K
C4037_1
6.3V 47 KA
C4062_1
6.3V 47 KA
RESET SW
Q4003
KTA1504S_Y_RTK
C4038
0.1 F
F_RESET
C4036
0.1 F
C4052
0.1 F
C4053
0.1 F
C4058
C4061
C4057
C4059
C4060
R4128
47K
R4018
22
F_CE
F_WE/DQM0
F_OE
DATA0
DATA1
DATA2
DATA3
DATA4
DATA5
DATA6
DATA7
DATA8
DATA9
DATA10
DATA11
DATA12
DATA13
DATA14
DATA15
ADDR1
ADDR2
ADDR3
ADDR4
ADDR5
ADDR6
ADDR7
ADDR8
ADDR9
ADDR10
ADDR11
ADDR12
ADDR13
ADDR14
ADDR15
ADDR16
ADDR17
ADDR18
ADDR19
ADDR20
DQ15
DQ14
DQ13
DQ12
DQ11
DQ10
DQ9
DQ8
DQ7
DQ6
DQ5
DQ4
DQ3
DQ2
DQ1
DQ0
SMI_CLK
SMI_DQMU
SMI_DQML
SMI_WE
SMI_CAS
SMI_RAS
SMI_CS0
AD13
AD12
AD11
AD10
AD0
AD1
AD2
AD3
AD9
AD8
AD7
AD6
AD5
AD4

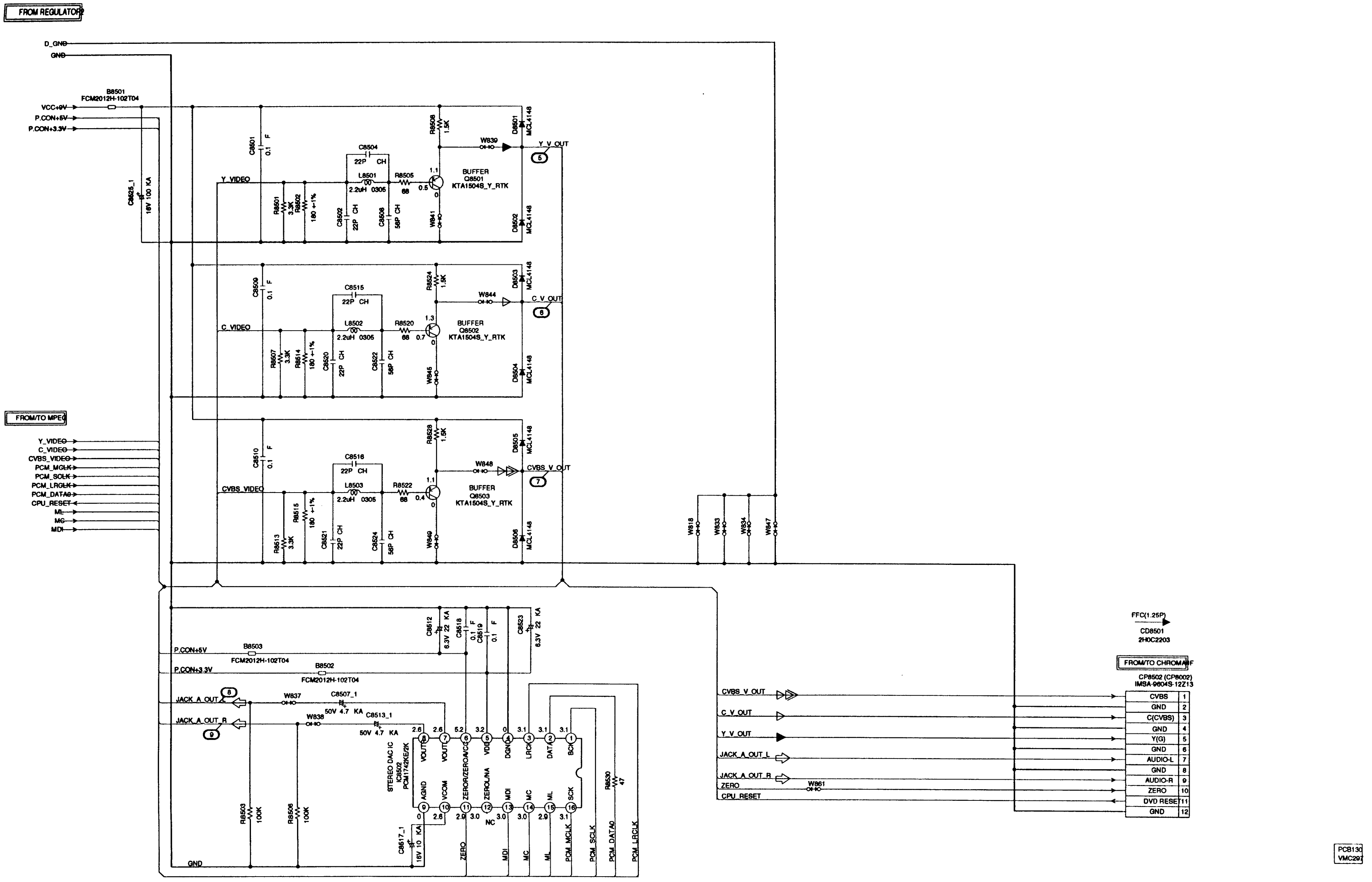
PCB130
VMC297

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE EACH PART WAS
MEASURED WITH THE DIGITAL TESTER
DURING PLAYBACK.

AUDIO/VIDEO SCHEMATIC DIAGRAM

(DVD PCB)


FROM REGULATOR2
D_GND
GND
B8501
FCM2012H-102T04
VCC+9V
P.CON+5V
P.CON+3.3V
C8625_1
16V 100 KA
FROM/TO MPEG
Y_VIDEO
C_VIDEO
CVBS_VIDEO
PCM_MCLK
PCM_SCLK
PCM_LRCLK
PCM_DATA0
CPU_RESET
ML
MC
MDI
C8501 0.1 F
C8504 22P CH
L8501 2.2uH 0305
R8505 68
R8501 3.3K
R8502 180 +-1%
C8502 22P CH
C8506 56P CH
R8508 1.5K
W839
W841
BUFFER
Q8501
KTA1504S_Y_RTK
1.1
0.5
0
D8501 MCL4148
D8502 MCL4148
Y_V_OUT
5
C8509 0.1 F
C8515 22P CH
L8502 2.2uH 0305
R8520 68
R8507 3.3K
R8514 180 +-1%
C8520 22P CH
C8522 56P CH
R8524 1.5K
W844
W845
BUFFER
Q8502
KTA1504S_Y_RTK
1.3
0.7
0
D8503 MCL4148
D8504 MCL4148
C_V_OUT
6
C8510 0.1 F
C8516 22P CH
L8503 2.2uH 0305
R8522 68
R8513 3.3K
R8515 180 +-1%
C8521 22P CH
C8524 56P CH
R8528 1.5K
W848
W849
BUFFER
Q8503
KTA1504S_Y_RTK
1.1
0.4
0
D8505 MCL4148
D8506 MCL4148
CVBS_V_OUT
7
W818
W833
W834
W847
C8512 6.3V 22 KA
C8518 0.1 F
C8519 0.1 F
C8523 6.3V 22 KA
P.CON+5V
B8503
FCM2012H-102T04
P.CON+3.3V
B8502
FCM2012H-102T04
JACK_A_OUT_L
8
W837
C8507_1
50V 4.7 KA
JACK_A_OUT_R
9
W838
C8513_1
50V 4.7 KA
STEREO DAC IC
IC8502
PCM1742KE/2K
VOUTR
VOUTL
ZEROR/ZEROA/CC
VDD
DGND
LRCK
DATA
BCK
AGND
VCOM
ZEROR/NA
ZEROL/NA
MDI
MC
ML
SCK
2.6
2.6
5.2
3.2
0
3.1
3.1
3.1
0
2.6
2.9
3.0
3.0
3.0
2.9
3.1
NC
R8503 100K
R8506 100K
C8517_1 16V 10 KA
R8530 47
GND
ZERO
MDI
MC
ML
PCM_MCLK
PCM_SCLK
PCM_DATA0
PCM_LRCLK
CVBS_V_OUT
C_V_OUT
Y_V_OUT
JACK_A_OUT_L
JACK_A_OUT_R
ZERO
W861
CPU_RESET
FFC(1.25P)
CD8501
2H0C2203
FROM/TO CHROMA IF
CP8502 (CP8002)
IMSA-9604S-12Z13
CVBS 1
GND 2
C(CVBS) 3
GND 4
Y(G) 5
GND 6
AUDIO-L 7
GND 8
AUDIO-R 9
ZERO 10
DVD RESET 11
GND 12
PCB130
VMC297

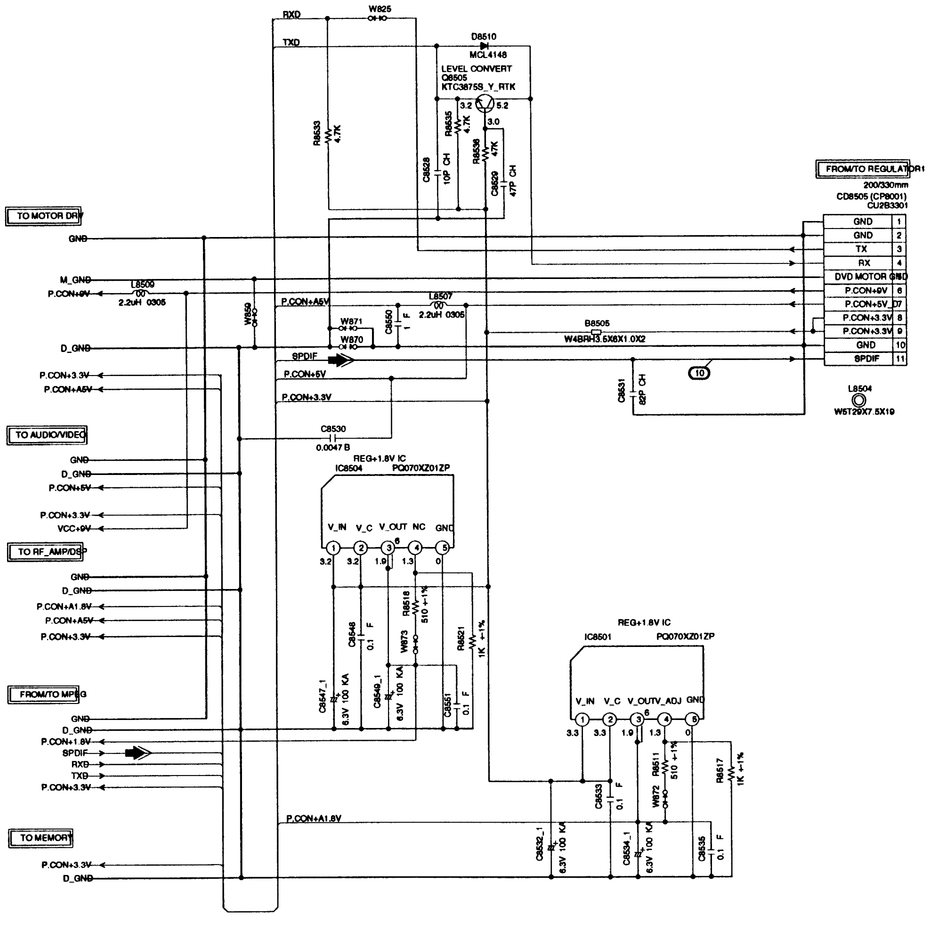
⇦ AUDIO SIGNAL(REC)
◀ PLAYBACK LUMINANCE SIGNAL
◁ PLAYBACK COLOR SIGNAL
⫷◁ PLAYBACK VIDEO SIGNAL

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTETHIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

REGULATOR2 SCHEMATIC DIAGRAM

(DVD PCB)


RXD
TXD
W825
D8510
MCL4148
LEVEL CONVERT
Q8505
KTC3875S_Y_RTK
3.2
5.2
3.0
R8533
4.7K
R8535
4.7K
R8536
47K
C8528
10P CH
C8529
47P CH
TO MOTOR DRV
GND
M_GND
P.CON+9V
L8509
2.2uH 0305
W859
P.CON+A5V
W871
W870
C8550
1 F
L8507
2.2uH 0305
D_GND
SPDIF
P.CON+5V
P.CON+3.3V
P.CON+3.3V
P.CON+A5V
C8530
0.0047 B
B8505
W4BRH3.5X6X1.0X2
C8531
82P CH
10
FROM/TO REGULATOR1
200/330mm
CD8505 (CP8001)
CU2B3301
GND 1
GND 2
TX 3
RX 4
DVD MOTOR GND 5
P.CON+9V 6
P.CON+5V_D 7
P.CON+3.3V 8
P.CON+3.3V 9
GND 10
SPDIF 11
L8504
W5T29X7.5X19
TO AUDIO/VIDEO
GND
D_GND
P.CON+5V
P.CON+3.3V
VCC+9V
TO RF_AMP/DSP
GND
D_GND
P.CON+A1.8V
P.CON+A5V
P.CON+3.3V
FROM/TO MPEG
GND
D_GND
P.CON+1.8V
SPDIF
RXD
TXD
P.CON+3.3V
TO MEMORY
P.CON+3.3V
D_GND
REG+1.8V IC
IC8504
PQ070XZ01ZP
V_IN V_C V_OUT NC GND
1 2 3 4 5
6
3.2 3.2 1.9 1.3 0
R8518
510 +-1%
C8548
0.1 F
W873
R8521
1K +-1%
C8547_1
6.3V 100 KA
C8549_1
6.3V 100 KA
C8551
0.1 F
P.CON+A1.8V
REG+1.8V IC
IC8501
PQ070XZ01ZP
V_IN V_C V_OUTV_ADJ GND
1 2 3 4 5
6
3.3 3.3 1.9 1.3 0
R8511
510 +-1%
W872
R8517
1K +-1%
C8533
0.1 F
C8532_1
6.3V 100 KA
C8534_1
6.3V 100 KA
C8535
0.1 F

PCB130
VMC297

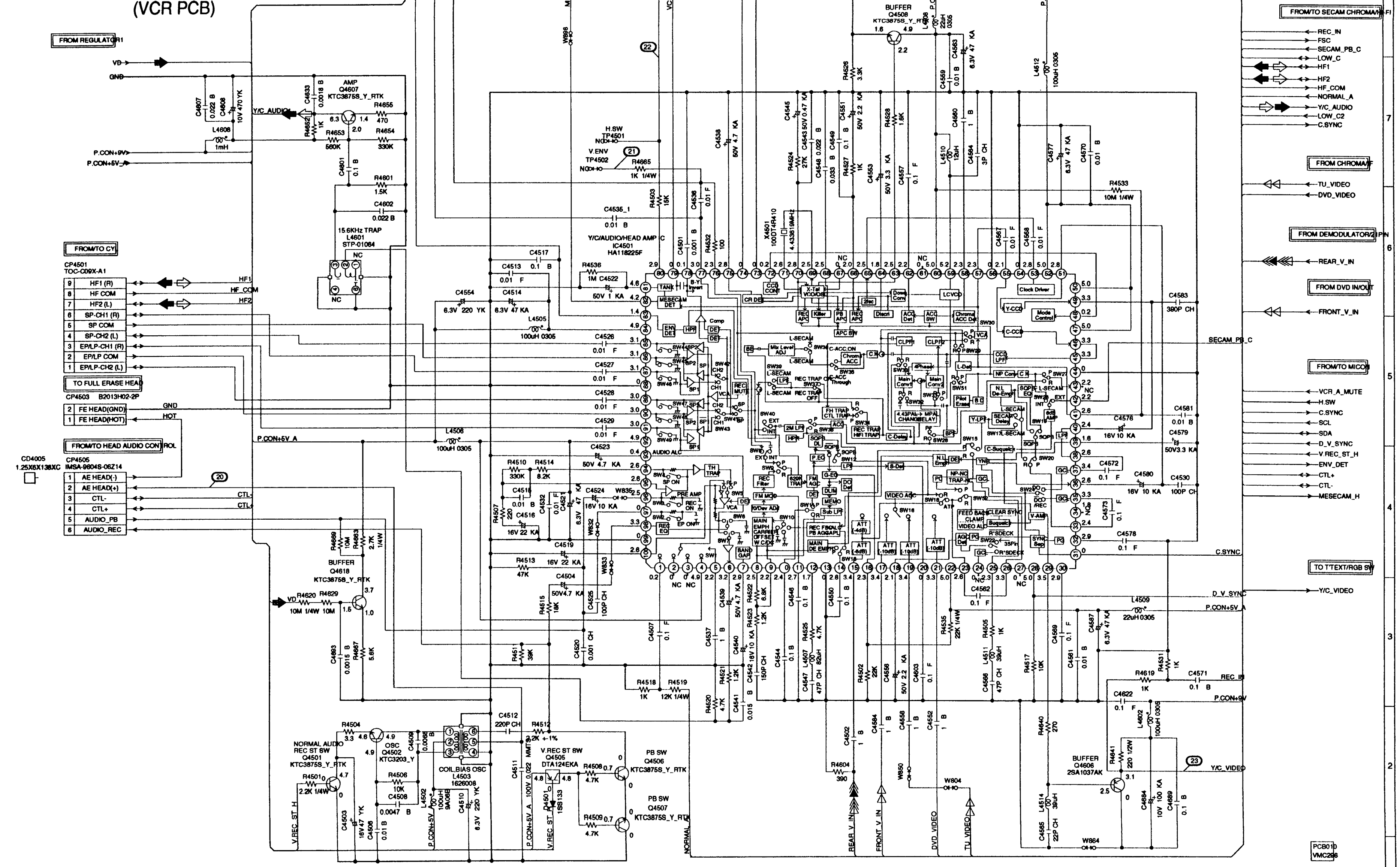
NOTETHIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE EACH PART WAS
MEASURED WITH THE DIGITAL TESTER
DURING PLAYBACK.

⇐ DIGITAL AUDIO SIGNAL(PB)

Y/C/AUDIO/HEAD AMP SCHEMATIC DIAGRAM

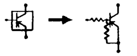
(VCR PCB)


FROM REGULATOR1
VD
GND
FROM/TO CY
CP4501
TOC-C09X-A1
HF1 (R)
HF COM
HF2 (L)
SP-CH1 (R)
SP COM
SP-CH2 (L)
EP/LP-CH1 (R)
EP/LP COM
EP/LP-CH2 (L)
TO FULL ERASE HEAD
CP4503 B2013H02-2P
FE HEAD(GND)
FE HEAD(HOT)
FROM/TO HEAD AUDIO CONTROL
CD4005 1.25X5X138XC
CP4505 IMSA-9604S-06Z14
AE HEAD(-)
AE HEAD(+)
CTL-
CTL+
AUDIO_PB
AUDIO_REC
AMP Q4607 KTC3875S_Y_RTK
Y/C_AUDIO
15.6KHz TRAP L4601 STP-01084
BUFFER Q4618 KTC3875S_Y_RTK
NORMAL AUDIO REC ST SW Q4501 KTC3875S_Y_RTK
OSC Q4502 KTC3203_Y
COIL,BIAS OSC L4503 1626008
V.REC ST SW Q4505 DTA124EKA
PB SW Q4506 KTC3875S_Y_RTK
PB SW Q4507 KTC3875S_Y_RTK
Y/C/AUDIO/HEAD AMP IC IC4501 HA118225F
X4501
BUFFER Q4508 KTC3875S_Y_RTK
BUFFER Q4606 2SA1037AK
H.SW TP4501
V.ENV TP4502
P.CON+9V
P.CON+5V_A
MESECAM_H
H.SW
VCR_A_MUTE
SDA
SCL
FSC
FROM/TO SECAM CHROMA/HI-FI
REC_IN
FSC
SECAM_PB_C
LOW_C
HF1
HF2
HF_COM
NORMAL_A
Y/C_AUDIO
LOW_C2
C.SYNC
FROM CHROMA/IF
TU_VIDEO
DVD_VIDEO
FROM DEMODULATOR/21PIN
REAR_V_IN
FROM DVD IN/OUT
FRONT_V_IN
SECAM_PB_C
FROM/TO MICOM
VCR_A_MUTE
H.SW
C.SYNC
SCL
SDA
D_V_SYNC
V.REC_ST_H
ENV_DET
CTL+
CTL-
MESECAM_H
TO TTEXT/RGB SW
Y/C_VIDEO
D_V_SYNC
C.SYNC
REAR_V_IN
FRONT_V_IN
DVD_VIDEO
TU_VIDEO
V.REC_ST_H
PCB010 VMC296

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

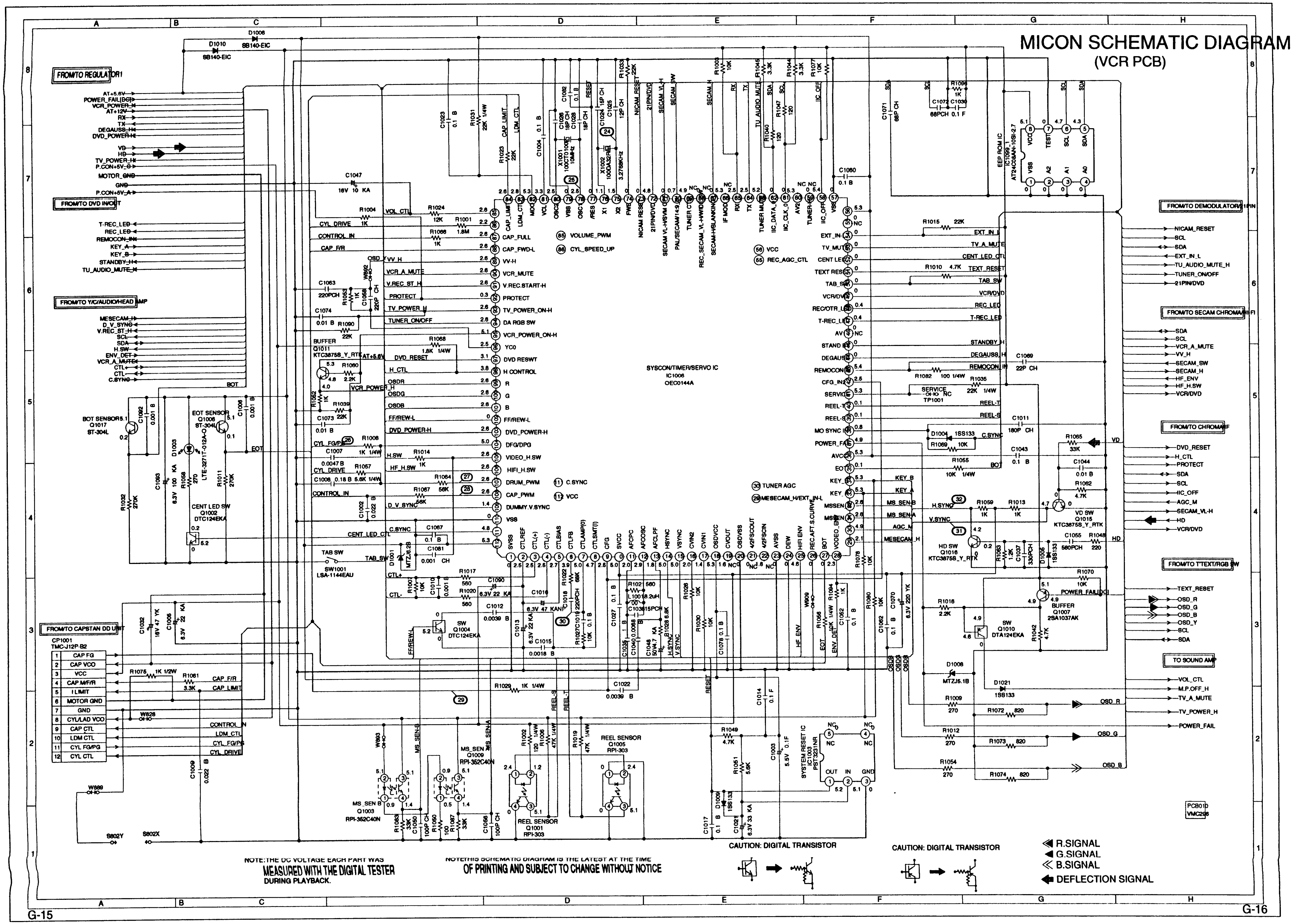
NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

CAUTION: DIGITAL TRANSISTOR



- ⊲⊲ TUNER VIDEO SIGNAL
- ◀ DEFLECTION SIGNAL
- ⇦ AUDIO SIGNAL(REC)
- ◀ AUDIO SIGNAL(PB)
- ⊲⊲⊲ RECORD LUMINANCE SIGNAL
- ⊲⊲ RECORD COLOR SIGNAL

MICON SCHEMATIC DIAGRAM
(VCR PCB)


FROM/TO REGULATOR1
AT+5.6V
POWER_FAIL(DC)
VCR_POWER_H
AT+12V
RX
TX
DEGAUSS_H
DVD_POWER-H
VD
HD
TV_POWER_H
P.CON+5V_G
MOTOR_GND
GND
P.CON+5V_A
FROM/TO DVD IN/OUT
T-REC_LED
REC_LED
REMOCON_IN
KEY_A
KEY_B
STANDBY_H
TU_AUDIO_MUTE_H
FROM/TO Y/C/AUDIO/HEAD AMP
MESECAM_H
D_V_SYNC
V.REC_ST_H
SCL
SDA
H.SW
ENV_DET
VCR_A_MUTE
CTL+
CTL-
C.SYNC
D1006 SB140-EIC
D1010 SB140-EIC
C1047 16V 10 KA
BOT SENSOR Q1017 ST-304L
EOT SENSOR Q1008 ST-304L
D1003 LTE-3271T-012A-0
CENT LED SW Q1002 DTC124EKA
BUFFER Q1011 KTC3875S_Y_RTK
TAB SW SW1001 LSA-1144EAU
SW Q1004 DTC124EKA
FROM/TO CAPSTAN DD UNIT
CP1001 TMC-J12P-B2
1 CAP FG
2 CAP VCO
3 VCC
4 CAP M/F/R
5 I LIMIT
6 MOTOR GND
7 GND
8 CYL/LAD VCO
9 CAP CTL
10 LDM CTL
11 CYL FG/PG
12 CYL CTL
SYSCON/TIMER/SERVO IC IC1006 OEC0144A
VOLUME_PWM
CYL_SPEED_UP
VCC
REC_AGC_CTL
C.SYNC
TUNER AGC
MESECAM_H/EXT_IN-L
CAP_FULL
CAP_FWD-L
VV-H
VCR_MUTE
V.REC.START-H
PROTECT
TV_POWER_ON-H
DA RGB SW
VCR_POWER_ON-H
YC0
DVD RESWT
H CONTROL
R
G
B
FF/REW-L
DVD_POWER-H
DFG/DPG
VIDEO_H.SW
HIFI_H.SW
DRUM_PWM
CAP_PWM
DUMMY.V.SYNC
VSS
EXT_IN
TV_MUTE
CENT LED
TEXT RESET
TAB_SW
VCR/DVD
REC/OTR_LED
T-REC_LED
AV
STAND BY
DEGAUSS
REMOCON
CFG_IN
SERVICE
REEL-T
REEL-S
MO SYNC
POWER_FAIL
AVC
EOT
KEY_B
KEY_A
MSSEN-B
MSSEN-A
AGC_M
MESECAM_H
X1001 10MHz
X1002 32.768KHz
EEP ROM IC IC1009 AT24C08AN-10SI-2.7
VCC
TEST
SCL
SDA
VSS
A2
A1
A0
FROM/TO DEMODULATOR/I IFIN
NICAM_RESET
EXT_IN_L
TU_AUDIO_MUTE_H
TUNER_ON/OFF
21PIN/DVD
FROM/TO SECAM CHROMA/HI FI
VCR_A_MUTE
VV_H
SECAM_SW
SECAM_H
HF_ENV
HF_H.SW
VCR/DVD
FROM/TO CHROMAMP
DVD_RESET
H_CTL
PROTECT
IIC_OFF
AGC_M
SECAM_VL-H
HD
SERVICE TP1001
D1004 1SS133
VD SW Q1015 KTC3875S_Y_RTK
HD SW Q1016 KTC3875S_Y_RTK
FROM/TO TTEXT/RGB SW
TEXT_RESET
OSD_R
OSD_G
OSD_B
OSD_Y
BUFFER Q1007 2SA1037AK
SW Q1010 DTA124EKA
TO SOUND AMP
VOL_CTL
M.P.OFF_H
TV_A_MUTE
TV_POWER_H
POWER_FAIL
D1008 MTZJ5.1B
D1021 1SS133
MS_SEN B Q1003 RPI-352C40N
MS_SEN A Q1009 RPI-352C40N
REEL SENSOR Q1005 RPI-303
REEL SENSOR Q1001 RPI-303
SYSTEM RESET IC IC1003 PST3231NR
OUT IN GND
D1009 1SS133
PCB010 VMC296

NOTE:THE DC VOLTAGE EACH PART WAS **MEASURED WITH THE DIGITAL TESTER** DURING PLAYBACK.

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME **OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE**

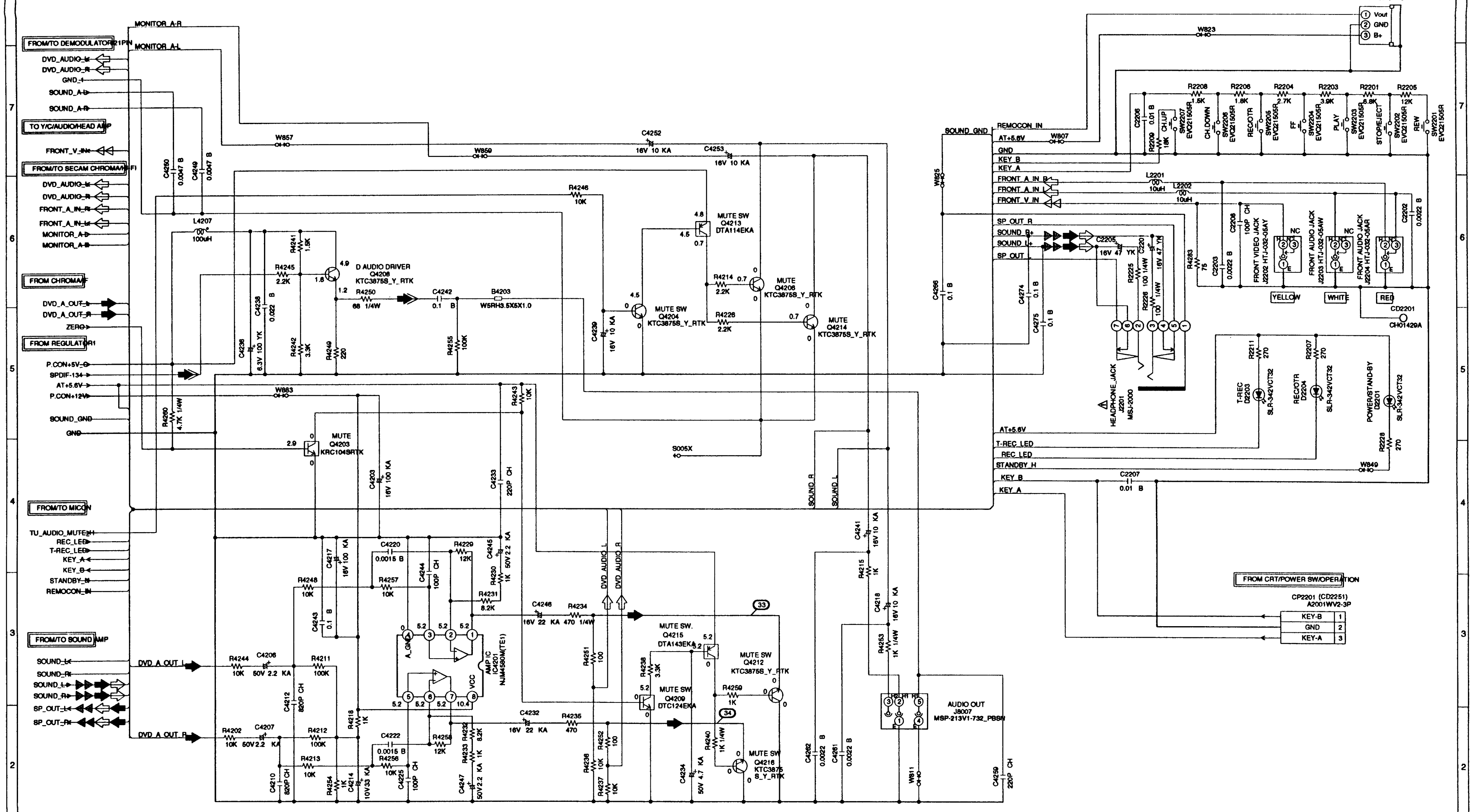
CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR

◀ R.SIGNAL
◀ G.SIGNAL
≪ B.SIGNAL
⬅ DEFLECTION SIGNAL

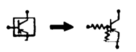
DVD IN/OUT SCHEMATIC DIAGRAM

(VCR PCB)

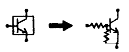


FROM/TO DEMODULATOR(21PIN)
DVD_AUDIO_L
DVD_AUDIO_R
GND
SOUND_A-L
SOUND_A-R
TO Y/C/AUDIO/HEAD AMP
FRONT_V_IN
FROM/TO SECAM CHROMA/IF
DVD_AUDIO_L
DVD_AUDIO_R
FRONT_A_IN_R
FRONT_A_IN_L
MONITOR_A-L
MONITOR_A-R
FROM CHROMA/IF
DVD_A_OUT_L
DVD_A_OUT_R
ZERO
FROM REGULATOR1
P.CON+5V
SPDIF-134
AT+5.6V
P.CON+12V
SOUND_GND
GND
FROM/TO MICON
TU_AUDIO_MUTE
REC_LED
T-REC_LED
KEY_A
KEY_B
STANDBY_H
REMOCON_IN
FROM/TO SOUND AMP
SOUND_L
SOUND_R
SOUND_L
SOUND_R
SP_OUT_L
SP_OUT_R
MONITOR_A-R
MONITOR_A-L
W857
W859
C4252 16V 10 KA
C4253 16V 10 KA
C4250 0.0047 B
C4249 0.0047 B
L4207 100uH
R4241 1.5K
R4245 2.2K
D AUDIO DRIVER Q4208 KTC3875S_Y_RTK
R4250 68 1/4W
C4242 0.1 B
B4203 W5RH3.5X5X1.0
C4236 6.3V 100 YK
C4238 0.022 B
R4242 3.3K
R4249 220
R4255 100K
R4246 10K
C4239 16V 10 KA
MUTE SW Q4213 DTA114EKA
MUTE SW Q4204 KTC3875S_Y_RTK
R4214 2.2K
MUTE Q4206 KTC3875S_Y_RTK
R4226 2.2K
MUTE Q4214 KTC3875S_Y_RTK
W825
C4266 0.1 B
W883
R4260 4.7K 1/4W
MUTE Q4203 KRC104SRTK
C4203 16V 100 KA
R4243 10K
C4233 220P CH
S005X
SOUND_R
SOUND_L
C4217 16V 100 KA
C4220 0.0015 B
C4244 100P CH
R4229 12K
C4245 50V 2.2 KA
R4248 10K
R4257 10K
R4230 1K
R4231 8.2K
C4243 0.1 B
AMP IC IC4201 NJM4580M(TE1)
A_GND
VCC
C4246 16V 22 KA
R4234 470 1/4W
DVD_AUDIO_L
DVD_AUDIO_R
MUTE SW. Q4215 DTA143EKA
MUTE SW Q4212 KTC3875S_Y_RTK
MUTE SW Q4209 DTC124EKA
R4238 3.3K
R4251 100
R4259 1K
R4244 10K
C4206 50V 2.2 KA
R4211 100K
C4212 820P CH
DVD_A_OUT_L
DVD_A_OUT_R
R4202 10K
C4207 50V 2.2 KA
R4212 100K
R4213 10K
C4210 820P CH
R4218 1K
R4254 1K
C4214 10V 33 KA
C4222 0.0015 B
R4256 10K
C4225 100P CH
R4258 12K
R4232 8.2K
R4233 1K
C4247 50V 2.2 KA
C4232 16V 22 KA
R4235 470
R4236 10K
R4237 10K
R4252 10K
R4253 100
C4234 50V 4.7 KA
R4240 1K 1/4W
MUTE SW Q4216 KTC3875S_Y_RTK
C4262 0.0022 B
C4261 0.0022 B
W811
C4259 220P CH
C4241 16V 10 KA
R4215 1K
C4218 16V 10 KA
R4253 1K 1/4W
AUDIO OUT J8007 MSP-213V1-732_PBSN
OS2202 RPM7138-SH10
Vout
GND
B+
W823
R2208 1.5K
R2206 1.8K
R2204 2.7K
R2203 3.9K
R2201 6.8K
R2205 12K
C2206 0.01 B
R2209 18K
CH.UP SW2207 EVQ21505R
CH.DOWN SW2206 EVQ21505R
REC/OTR SW2205 EVQ21505R
FF SW2204 EVQ21505R
PLAY SW2203 EVQ21505R
STOP/EJECT SW2202 EVQ21505R
REW SW2201 EVQ21505R
SOUND_GND
REMOCON_IN
AT+5.6V
W807
GND
KEY_B
KEY_A
FRONT_A_IN_R
FRONT_A_IN_L
FRONT_V_IN
L2201 10uH
L2202 10uH
SP_OUT_R
SOUND_R+
SOUND_L+
SP_OUT
C2205 16V 47 YK
C2201 16V 47 YK
R2225 100 1/4W
R2226 100 1/4W
R4283 75
C2203 0.0022 B
C2208 100P CH
FRONT VIDEO JACK J2202 HTJ-032-05AY
FRONT AUDIO JACK J2203 HTJ-032-05AW
FRONT AUDIO JACK J2204 HTJ-032-05AR
C2202 0.0022 B
NC
YELLOW
WHITE
RED
CD2201 CH01429A
C4274 0.1 B
C4275 0.1 B
HEADPHONE_JACK J2201 MSJ-2000
R2211 270
R2207 270
T-REC D2203 SLR-342VCT32
REC/OTR D2204 SLR-342VCT32
POWER/STAND-BY D2201 SLR-342VCT32
R2228 270
AT+5.6V
T-REC LED
REC LED
STANDBY_H
KEY_B
KEY_A
W849
C2207 0.01 B
FROM CRT/POWER SW/OPERATION
CP2201 (CD2251) A2001WV2-3P
KEY-B
GND
KEY-A
33
34

CAUTION: DIGITAL TRANSISTOR



CAUTION: DIGITAL TRANSISTOR



CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY

ATTENTION LES PIECES REPAREES PAR ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

NOTE THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

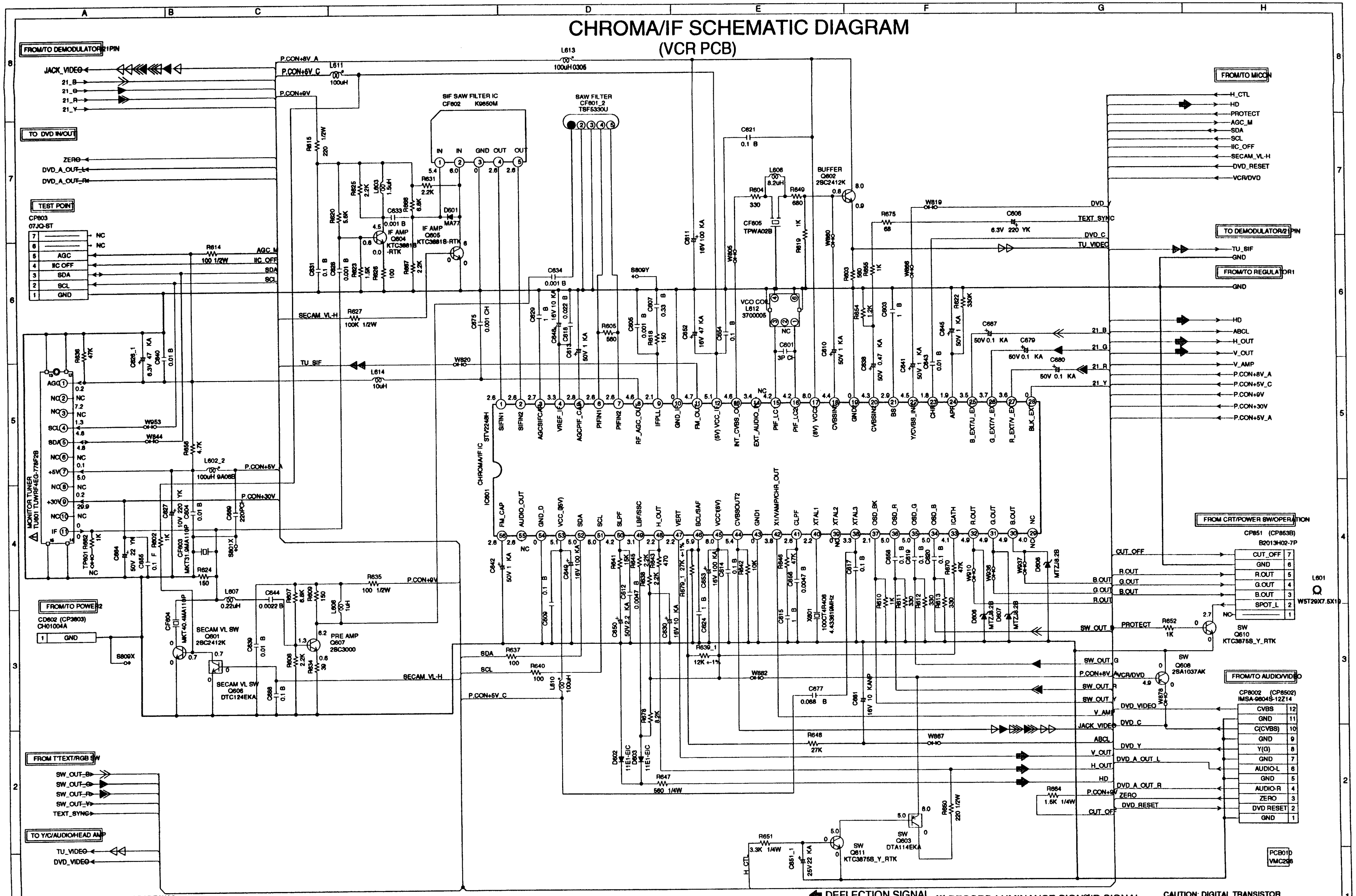
NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

PCB010
VMC298

⇦ AUDIO SIGNAL
⬅ AUDIO SIGNAL(PB)
⏪ TUNER AUDIO SIGNAL
⬅ DIGITAL AUDIO SIGNAL(PB)
◁◁ TUNER VIDEO SIGNAL

CHROMA/IF SCHEMATIC DIAGRAM

(VCR PCB)


FROM/TO DEMODULATOR 21PIN
JACK_VIDEO
21_B
21_G
21_R
21_Y
TO DVD IN/OUT
ZERO
DVD_A_OUT_L
DVD_A_OUT_R
TEST POINT
CP603
07JQ-ST
NC
AGC
IIC OFF
SDA
SCL
GND
MONITOR TUNER
TU601 TUWRF4EG-778F2B
FROM/TO POWER 2
CD602 (CP3603)
CH01004A
FROM TTEXT/RGB SW
SW_OUT_B
SW_OUT_G
SW_OUT_R
SW_OUT_Y
TEXT_SYNC
TO Y/C/AUDIO/HEAD AMP
TU_VIDEO
DVD_VIDEO
P.CON+8V_A
P.CON+5V_C
P.CON+9V
L611
100uH
L613
100uH 0305
SIF SAW FILTER IC
CF602 K9650M
SAW FILTER
CF601_2
TSF5330U
IF AMP
Q604
KTC3881S-RTK
IF AMP
Q605
KTC3881S-RTK
D601
MA77
SECAM_VL-H
TU_SIF
L614
10uH
BUFFER
Q602
2SC2412K
VCO COIL
L612
3700005
CF605
TPWA02B
L606
8.2uH
SECAM VL SW
Q601
2SC2412K
SECAM VL SW
Q606
DTC124EKA
PRE AMP
Q607
2SC3000
CF604
MKT40.4MA110P
CF603
MKT31.9MA110P
L607
0.22uH
L602_2
100uH 9A06B
CHROMA/IF IC
IC601
STV2248H
SIFIN1
SIFIN2
AGCSIFCAP
VREF_C
AGCPIF_CAP
PIFIN1
PIFIN2
RF_AGC_OUT
IFPLL
GND_IF
FM_OUT
(5V) VCC_IF
INT_CVBS_OUT
EXT_AUDIO_IN
PIF_LC1
PIF_LC2
(8V) VCC2
CVBSIN1
GND2
CVBSIN2
BS
Y/CVBS_IN
CHR
APR
B_EXTIL_EXT
G_EXTIY_EXT
R_EXTIV_EXT
BLK_EXT
FM_CAP
AUDIO_OUT
GND_D
VCC_(5V)
SDA
SCL
SLPF
LBF/SSC
H_OUT
VERT
BCL/SAF
VCC(8V)
CVBSOUT2
GND1
X1/VAMP/CHR_OUT
CLPF
XTAL1
XTAL2
XTAL3
OSD_BK
OSD_R
OSD_G
OSD_B
ICATH
R.OUT
G.OUT
B.OUT
NC
X601
100CTAA408
4.433619MHz
FROM/TO MICON
H_CTL
HD
PROTECT
AGC_M
SDA
SCL
IIC_OFF
SECAM_VL-H
DVD_RESET
VCR/DVD
TO DEMODULATOR/21PIN
TU_SIF
GND
FROM/TO REGULATOR1
GND
HD
ABCL
H_OUT
V_OUT
V_AMP
P.CON+8V_A
P.CON+5V_C
P.CON+9V
P.CON+30V
P.CON+5V_A
FROM CRT/POWER SW/OPERATION
CP851 (CP853B)
B2013H02-7P
CUT_OFF
GND
R.OUT
G.OUT
B.OUT
SPOT_L
L601
W5T29X7.5X10
SW
Q610
KTC3875S_Y_RTK
SW
Q608
2SA1037AK
FROM/TO AUDIO/VIDEO
CP8002 (CP8502)
IMSA-9604S-12Z14
CVBS
GND
C(CVBS)
GND
Y(G)
GND
AUDIO-L
GND
AUDIO-R
ZERO
DVD RESET
GND
SW
Q603
DTA114EKA
SW
Q611
KTC3875S_Y_RTK
D602
11E1-EIC
D603
11E1-EIC
D606 MTZJ8.2B
D607 MTZJ8.2B
D608 MTZJ8.2B
PCB010
VMC296

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY

ATTENTION: LES PIECES REPAREES PAR ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

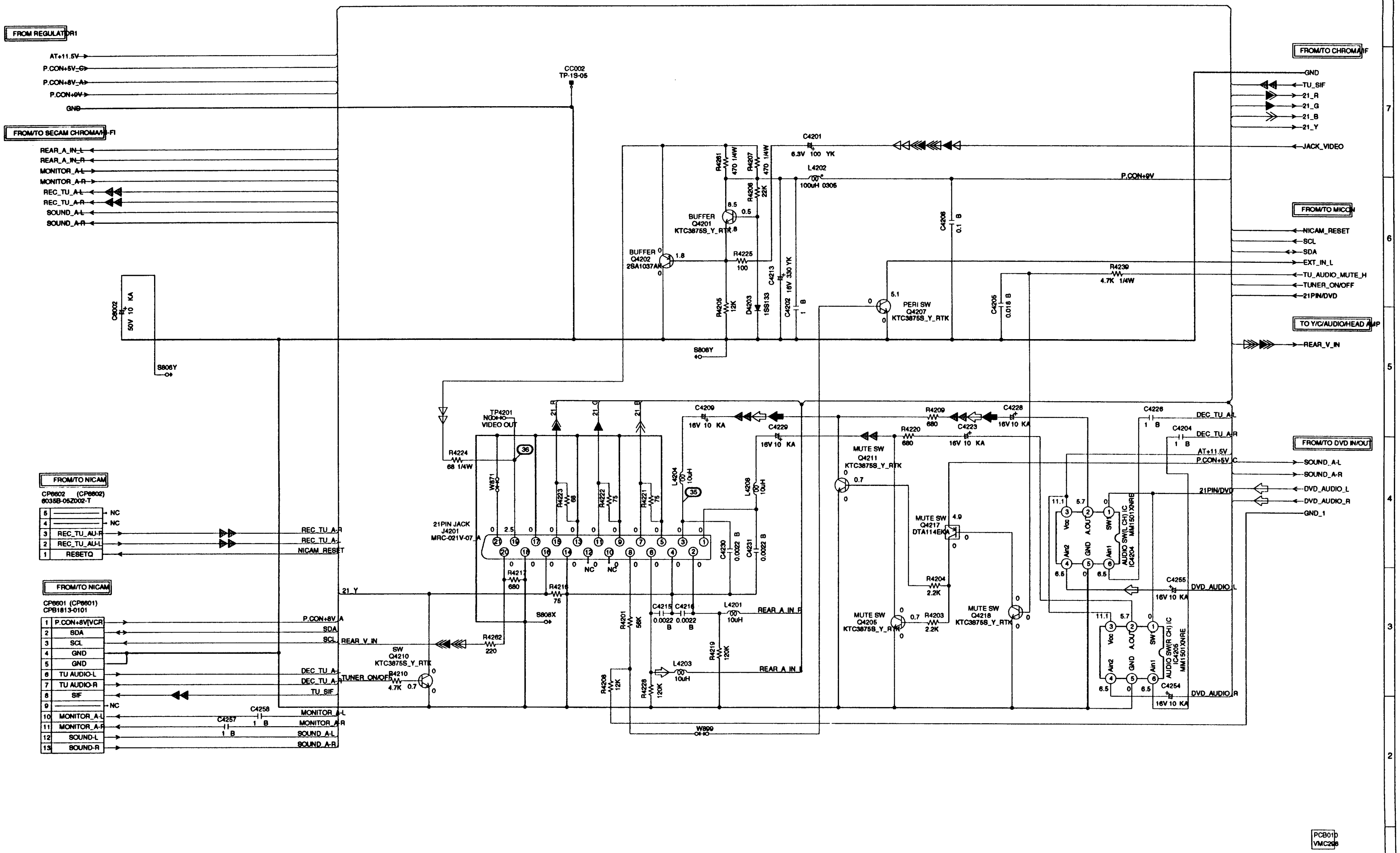
CAUTION: DIGITAL TRANSISTOR

- ◀ DEFLECTION SIGNAL
- ⇦ AUDIO SIGNAL(REC)
- ⬅ AUDIO SIGNAL(PB)
- ◀◀ TUNER AUDIO SIGNAL
- ◁◁ TUNER VIDEO SIGNAL
- ◀◀ RECORD LUMINANCE SIGNAL
- ≪◁ RECORD COLOR SIGNAL
- ◁ PLAYBACK COLOR SIGNAL
- ◀ PLAYBACK LUMINANCE SIGNAL
- ◀◀ R.SIGNAL
- ◀ G.SIGNAL
- ≪ B.SIGNAL

CAUTION: DIGITAL TRANSISTOR

DEMODULATOR/21PIN SCHEMATIC DIAGRAM

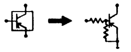
(VCR PCB)


FROM REGULATOR1
AT+11.5V
P.CON+5V_C
P.CON+8V_A
P.CON+9V
GND
FROM/TO SECAM CHROMA/IF
REAR_A_IN_L
REAR_A_IN_R
MONITOR_A-L
MONITOR_A-R
REC_TU_A-L
REC_TU_A-R
SOUND_A-L
SOUND_A-R
CC002 TP-1S-05
C8002 50V 10 KA
S806Y
FROM/TO NICAM
CP6602 (CP6602) 6035B-05Z002-T
REC_TU_AU-R
REC_TU_AU-L
RESETQ
NC
FROM/TO NICAM
CP6601 (CP6601) CPB1813-0101
P.CON+8V(VCR)
SDA
SCL
GND
TU AUDIO-L
TU AUDIO-R
SIF
MONITOR_A-L
MONITOR_A-R
SOUND-L
SOUND-R
C4258
C4257 1 B
BUFFER Q4201 KTC3875S_Y_RTK
BUFFER Q4202 2SA1037AK
R4281 470 1/4W
R4207 470 1/4W
R4206 22K
R4225 100
R4205 12K
D4203 1SS133
C4213 16V 330 YK
C4202 1 B
C4201 6.3V 100 YK
L4202 100uH 0305
C4206 0.1 B
C4205 0.018 B
PERI SW Q4207 KTC3875S_Y_RTK
R4239 4.7K 1/4W
P.CON+9V
S808Y
TP4201 NC VIDEO OUT
R4224 68 1/4W
W871
21PIN JACK J4201 MRC-021V-07_A
R4223 68
R4222 75
R4221 75
L4204 10uH
L4208 10uH
C4209 16V 10 KA
C4229 16V 10 KA
C4230 0.0022 B
C4231 0.0022 B
R4217 680
R4216 75
S808X
R4262 220
SW Q4210 KTC3875S_Y_RTK
R4210 4.7K
R4201 56K
R4208 12K
R4228 120K
R4219 120K
C4215 0.0022 B
C4216 0.0022 B
L4201 10uH
L4203 10uH
W809
REAR_A_IN_R
REAR_A_IN_L
21_Y
REAR_V_IN
TUNER_ON/OFF
TU_SIF
DEC_TU_A-L
DEC_TU_A-R
MUTE SW Q4211 KTC3875S_Y_RTK
R4209 680
R4220 680
C4223 16V 10 KA
C4228 16V 10 KA
MUTE SW Q4217 DTA114EKA
R4204 2.2K
R4203 2.2K
MUTE SW Q4205 KTC3875S_Y_RTK
MUTE SW Q4218 KTC3875S_Y_RTK
C4226 1 B
C4204 1 B
AUDIO SW(L CH) IC IC4204 MM1501XNRE
AUDIO SW(R CH) IC IC4205 MM1501XNRE
C4255 16V 10 KA
C4254 16V 10 KA
DVD_AUDIO_L
DVD_AUDIO_R
21PIN/DVD
FROM/TO CHROMA/IF
GND
TU_SIF
21_R
21_G
21_B
21_Y
JACK_VIDEO
FROM/TO MICOM
NICAM_RESET
SCL
SDA
EXT_IN_L
TU_AUDIO_MUTE_H
TUNER_ON/OFF
21PIN/DVD
TO Y/C/AUDIO/HEAD AMP
REAR_V_IN
FROM/TO DVD IN/OUT
SOUND_A-L
SOUND_A-R
DVD_AUDIO_L
DVD_AUDIO_R
GND_1
AT+11.5V
P.CON+5V_C
PCB010 VMC298

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE EACH PART WAS
MEASURED WITH THE DIGITAL TESTER
DURING PLAYBACK.

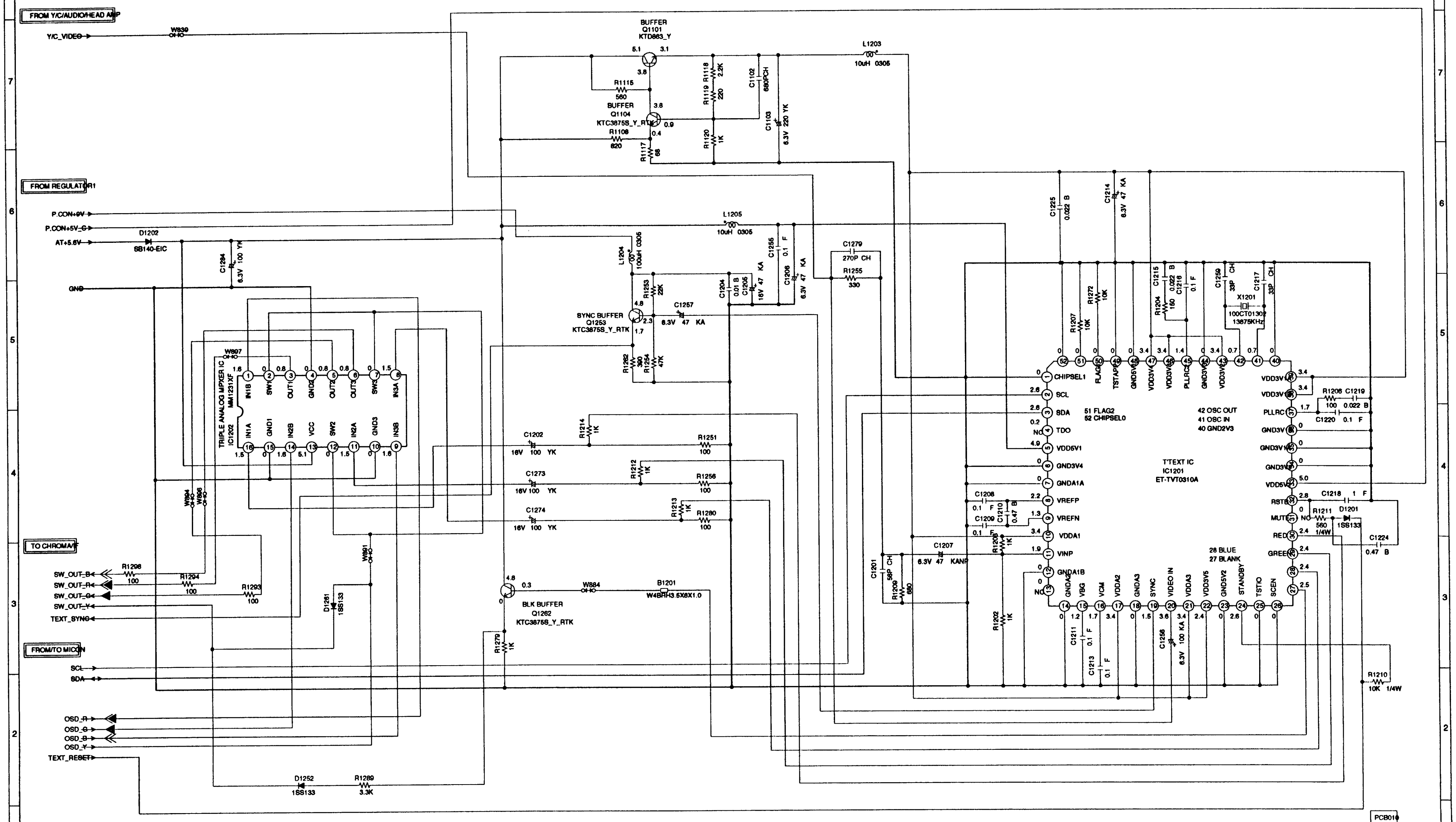
CAUTION: DIGITAL TRANSISTOR



- ◁◁ TUNER VIDEO SIGNAL
- ◀◀ TUNER AUDIO SIGNAL
- ⇦ AUDIO SIGNAL(REC)
- ⬅ AUDIO SIGNAL(PB)
- ◀◀ RECORD LUMINANCE SIGNAL
- ◀ PLAYBACK LUMINANCE SIGNAL
- ≪ RECORD COLOR SIGNAL
- ◁ PLAYBACK COLOR SIGNAL

T'TEXT/RGB SW SCHEMATIC DIAGRAM

(VCR PCB)



FROM Y/C/AUDIO/HEAD AMP
Y/C_VIDEO
W839
FROM REGULATOR1
P.CON+9V
P.CON+5V_G
AT+5.6V
D1202
SB140-EIC
GND
C1284
6.3V 100 YK
BUFFER
Q1101
KTD863_Y
R1115
560
BUFFER
Q1104
KTC3875S_Y_RTK
R1108
820
R1117
68
R1118
2.2K
R1119
220
R1120
1K
C1102
680PCH
C1103
6.3V 220 YK
L1203
10uH 0305
L1205
10uH 0305
L1204
100uH 0305
R1253
22K
SYNC BUFFER
Q1253
KTC3875S_Y_RTK
C1257
6.3V 47 KA
R1252
390
R1254
47K
C1204
0.01 B
C1205
16V 47 KA
C1255
0.1 F
C1206
6.3V 47 KA
C1279
270P CH
R1255
330
TRIPLE ANALOG MPXER IC
IC1202
MM1231XF
W897
IN1B
SW1
OUT1
GND2
OUT2
OUT3
SW3
IN3A
IN1A
GND1
IN2B
VCC
SW2
IN2A
GND3
IN3B
C1202
16V 100 YK
C1273
16V 100 YK
C1274
16V 100 YK
R1214
1K
R1212
1K
R1213
1K
R1251
100
R1256
100
R1280
100
W894
W896
W891
D1251
1SS133
TO CHROMA/IF
SW_OUT_B
SW_OUT_R
SW_OUT_G
SW_OUT_Y
TEXT_SYNC
R1296
100
R1294
100
R1293
100
FROM/TO MICON
SCL
SDA
OSD_R
OSD_G
OSD_B
OSD_Y
TEXT_RESET
D1252
1SS133
R1289
3.3K
BLK BUFFER
Q1262
KTC3875S_Y_RTK
R1279
1K
W884
B1201
W4BRH3.5X8X1.0
C1201
56P CH
R1206
680
C1207
6.3V 47 KANP
C1225
0.022 B
C1214
6.3V 47 KA
R1207
10K
R1272
10K
C1215
0.022 B
R1204
150
C1216
0.1 F
C1259
33P CH
X1201
100CT01302
13875KHz
C1217
33P CH
C1208
0.1 F
C1210
0.47 B
C1209
0.1 F
R1203
1K
R1202
1K
C1211
0.1 F
C1213
0.1 F
C1258
6.3V 100 KA
T'TEXT IC
IC1201
ET-TVT0310A
CHIPSEL1
SCL
SDA
TDO
VDD5V1
GND3V4
GNDA1A
VREFP
VREFN
VDDA1
VINP
GNDA1B
NC
GNDA2
VBG
VCM
VDDA2
GNDA3
SYNC
VIDEO IN
VDDA3
VDD3V5
GND5V2
STANDBY
TSTIO
SCEN
FLAG1
TSTAPB
GND5V1
VDD3V1
VDD3V2
PLLRC1
GND3V2
VDD3V3
VDD3V
PLLRC
GND3V
VDD5V
RSTB
MUTE
RED
GREEN
51 FLAG2
52 CHIPSEL0
42 OSC OUT
41 OSC IN
40 GND2V3
28 BLUE
27 BLANK
R1208
100
C1219
0.022 B
C1220
0.1 F
C1218
1 F
R1211
560
1/4W
D1201
1SS133
C1224
0.47 B
R1210
10K 1/4W
PCB010
VMC298

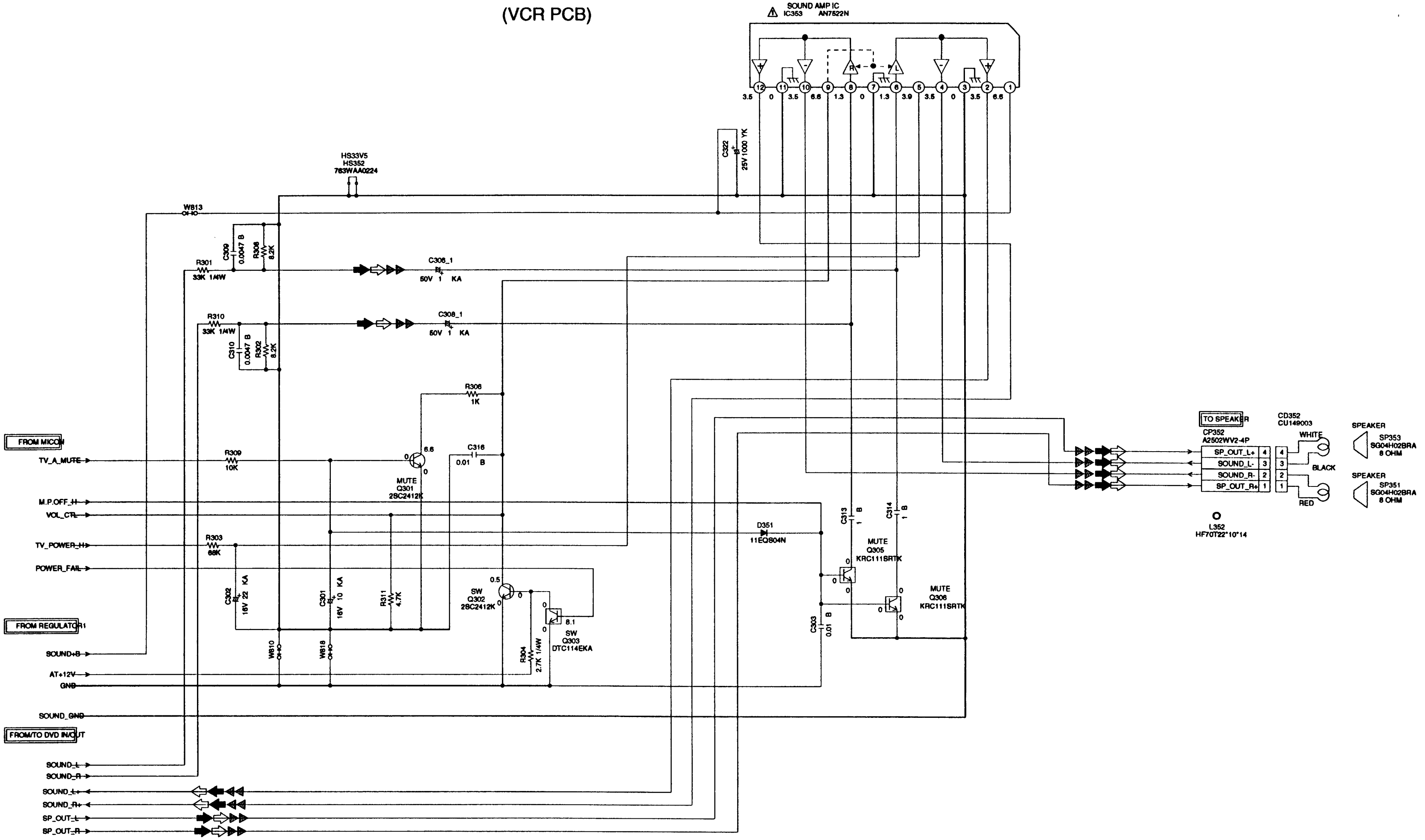
NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

◀ R.SIGNAL
◀ G.SIGNAL
≪ B.SIGNAL

SOUND AMP SCHEMATIC DIAGRAM

(VCR PCB)



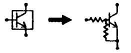
SOUND AMP IC
IC353 AN7522N
12 11 10 9 8 7 6 5 4 3 2 1
3.5 0 3.5 6.6 1.3 0 1.3 3.9 3.5 0 3.5 6.6
R
L
C322 25V 1000 YK
HS33V5
HS352
763WAA0224
W813
R301 33K 1/4W
C309 0.0047 B
R308 8.2K
C306_1 50V 1 KA
R310 33K 1/4W
C310 0.0047 B
R302 8.2K
C308_1 50V 1 KA
R306 1K
C316 0.01 B
6.6
0
0
MUTE
Q301
2SC2412K
R309 10K
R303 68K
C302 16V 22 KA
C301 16V 10 KA
R311 4.7K
0.5
0
0
SW
Q302
2SC2412K
0
0
8.1
SW
Q303
DTC114EKA
R304 2.7K 1/4W
W810
W818
D351
11EQS04N
C313 1 B
C314 1 B
MUTE
Q305
KRC111SRTK
0
0
0
MUTE
Q306
KRC111SRTK
0
0
0
C303 0.01 B
FROM MICON
TV_A_MUTE
M.P.OFF_H
VOL_CTL
TV_POWER_H
POWER_FAIL
FROM REGULATOR1
SOUND+B
AT+12V
GND
SOUND_GND
FROM/TO DVD IN/OUT
SOUND_L
SOUND_R
SOUND_L+
SOUND_R+
SP_OUT_L
SP_OUT_R
TO SPEAKER
CP352
A2502WV2-4P
SP_OUT_L+ 4
SOUND_L- 3
SOUND_R- 2
SP_OUT_R+ 1
CD352
CU149003
4
3
2
1
WHITE
BLACK
RED
SPEAKER
SP353
SG04H02BRA
8 OHM
SPEAKER
SP351
SG04H02BRA
8 OHM
L352
HF70T22*10*14

PCB010
VMC29

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE EACH PART WAS
MEASURED WITH THE DIGITAL TESTER
DURING PLAYBACK.

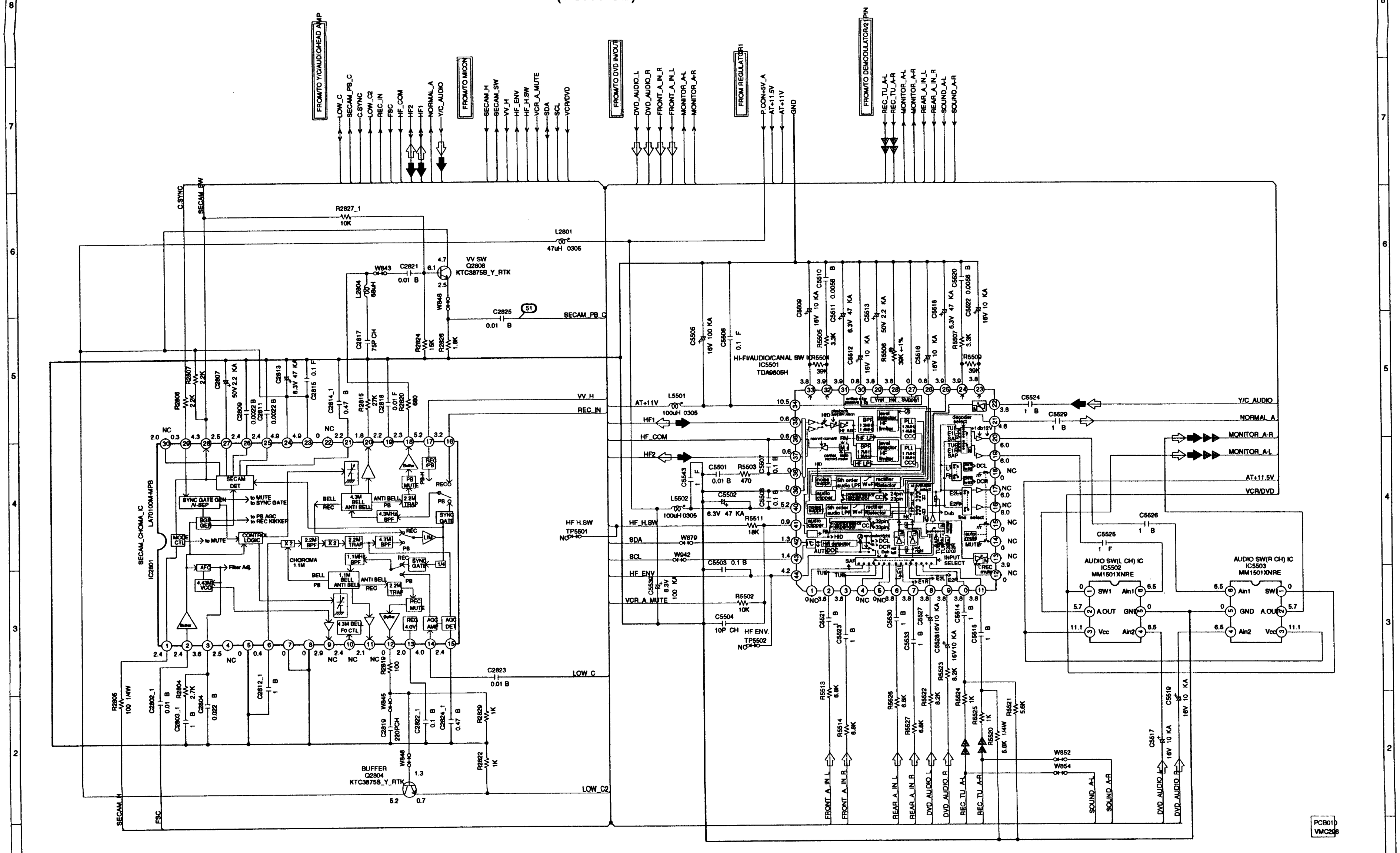
CAUTION: DIGITAL TRANSISTOR



◀◀ TUNER AUDIO SIGNAL
⇦ AUDIO SIGNAL(REC)
⬅ AUDIO SIGNAL(PB)

SECAM CHROMA/HI-FI SCHEMATIC DIAGRAM

(VCR PCB)



FROM/TO Y/C/AUDIO/HEAD AMP
LOW_C
SECAM_PB_C
C.SYNC
LOW_C2
REC_IN
FSC
HF_COM
HF2
HF1
NORMAL_A
Y/C_AUDIO
FROM/TO MICON
SECAM_H
SECAM_SW
VV_H
HF_ENV
HF_H.SW
VCR_A_MUTE
SDA
SCL
VCR/DVD
FROM/TO DVD IN/OUT
DVD_AUDIO_L
DVD_AUDIO_R
FRONT_A_IN_R
FRONT_A_IN_L
MONITOR_A-L
MONITOR_A-R
FROM REGULATOR1
P.CON+5V_A
AT+11.5V
AT+11V
GND
FROM/TO DEMODULATOR/2 PIN
REC_TU_A-L
REC_TU_A-R
MONITOR_A-L
MONITOR_A-R
REAR_A_IN_L
REAR_A_IN_R
SOUND_A-L
SOUND_A-R
R2827_1
10K
L2801
47uH 0305
VV SW
Q2808
KTC3875S_Y_RTK
W843
C2821
0.01 B
L2804
68uH
W848
C2825
0.01 B
(51)
SECAM_PB_C
C2817
75P CH
R2824
15K
R2826
1.8K
R2806
2.2K
R2807
2.2K
C2807
50V 2.2 KA
C2809
0.0022 B
C2811
0.0022 B
C2813
6.3V 47 KA
C2815
0.1 F
C2814_1
0.47 B
R2815
27K
C2818
0.01 F
R2820
680
VV_H
REC_IN
SECAM_CHROMA_IC
LA70100M-MPB
IC2801
SECAM DET
SYNC GATE GEN /V-SEP
to MUTE
to SYNC GATE
BGP GEN
to PB AGC
to REC KIKKER
MODE CTL
CONTROL LOGIC
AFC
Filter Adj.
4.43M VCO
CHROMA 1.1M
BELL
ANTI BELL
4.3M BELL
2.2M TRAP
4.3MHz BPF
REC
PB
SYNC GATE
1/4
LIM
1.1MHz BPF
REC MUTE
AGC AMP
AGC DET
4.3M BEL F0 CTL
REG 4.0V
Buffer
R2805
100 1/4W
C2802_1
0.01 B
C2803_1
1 B
R2804
2.7K
C2804
0.022 B
C2812_1
1 B
R2819
100
W845
C2819
220P CH
C2822_1
0.1 B
C2824_1
0.47 B
R2829
1K
C2823
0.01 B
LOW_C
R2822
1K
BUFFER
Q2804
KTC3875S_Y_RTK
W846
LOW_C2
SECAM_H
FSC
AT+11V
L5501
100uH 0305
HF1
HF_COM
HF2
C5501
0.01 B
R5503
470
C5543
L5502
100uH 0305
C5502
6.3V 47 KA
R5511
18K
HF H.SW
TP5501
HF_H.SW
SDA
W879
SCL
W942
HF_ENV
C5503 0.1 B
C5530
6.3V 100 KA
VCR_A_MUTE
R5502
10K
C5504
10P CH
HF ENV.
TP5502
NC
C5505
16V 100 KA
C5506
0.1 F
HI-FI/AUDIO/CANAL SW IC
IC5501
TDA9605H
R5504
30K
C5509
16V 10 KA
C5510
C5511
0.0056 B
C5513
50V 2.2 KA
C5512
6.3V 47 KA
R5505
3.3K
R5506
39K +-1%
C5516
16V 10 KA
C5518
6.3V 47 KA
C5520
C5522
0.0056 B
16V 10 KA
R5507
3.3K
R5509
39K
C5524
1 B
C5529
1 B
Y/C_AUDIO
NORMAL_A
MONITOR_A-R
MONITOR_A-L
AT+11.5V
VCR/DVD
C5526
1 B
C5525
1 F
AUDIO SW(L CH) IC
IC5502
MM1501XNRE
SW1
Ain1
A.OUT
GND
Vcc
Ain2
AUDIO SW(R CH) IC
IC5503
MM1501XNRE
C5521
C5523
1 B
C5533
C5527
C5528
16V 10 KA
C5514
C5515
R5513
6.8K
R5514
6.8K
R5526
6.8K
R5527
6.8K
R5522
8.2K
R5523
8.2K
R5524
1K
R5525
1K
R5520
5.6K 1/4W
R5521
5.6K
C5519
16V 10 KA
C5517
16V 10 KA
W852
W854
FRONT_A_IN_L
FRONT_A_IN_R
REAR_A_IN_L
REAR_A_IN_R
DVD_AUDIO_L
DVD_AUDIO_R
REC_TU_A-L
REC_TU_A-R
SOUND_A-L
SOUND_A-R
DVD_AUDIO_L
DVD_AUDIO_R
PCB010
VMC208

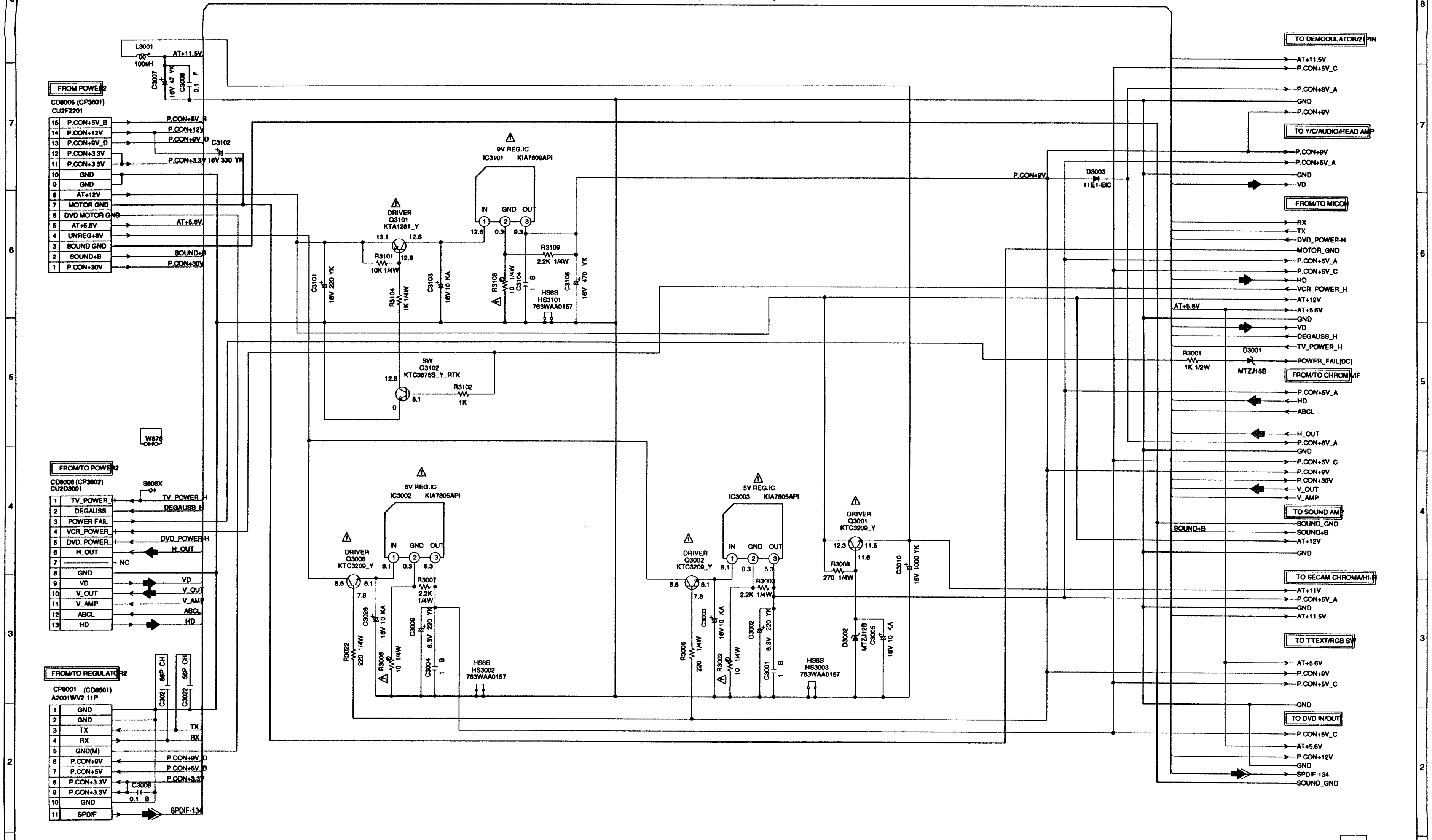
NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

◀ AUDIO SIGNAL(PB)
⇦ AUDIO SIGNAL(REC)
◀◀ *TUNER AUDIO SIGNAL*

REGULATOR1 SCHEMATIC DIAGRAM

(VCR PCB)


FROM POWER2
CD8005 (CP3601)
CU2F2201
15 P.CON+5V_B
14 P.CON+12V
13 P.CON+9V_D
12 P.CON+3.3V
11 P.CON+3.3V
10 GND
9 GND
8 AT+12V
7 MOTOR GND
6 DVD MOTOR GND
5 AT+5.6V
4 UNREG+8V
3 SOUND GND
2 SOUND+B
1 P.CON+30V
L3001
100uH
AT+11.5V
C3007 16V 47 YK
C3008 0.1 F
C3102 16V 330 YK
9V REG.IC
IC3101 KIA7809API
IN GND OUT
DRIVER
Q3101
KTA1281_Y
R3101 10K 1/4W
R3104 1K 1/4W
C3101 16V 220 YK
C3103 16V 10 KA
R3106 10 1/4W
C3104 1 B
C3106 16V 470 YK
R3109 2.2K 1/4W
HS6S
HS3101
763WAA0157
SW
Q3102
KTC3875S_Y_RTK
R3102 1K
W876
FROM/TO POWER2
CD8006 (CP3602)
CU2D3001
1 TV_POWER_H
2 DEGAUSS
3 POWER FAIL
4 VCR_POWER_H
5 DVD_POWER_H
6 H_OUT
7 NC
8 GND
9 VD
10 V_OUT
11 V_AMP
12 ABCL
13 HD
S806X
5V REG.IC
IC3002 KIA7805API
DRIVER
Q3006
KTC3209_Y
R3022 220 1/4W
R3026 10 1/4W
C3026 16V 10 KA
C3009 6.3V 220 YK
C3004 1 B
R3007 2.2K 1/4W
HS6S
HS3002
763WAA0157
5V REG.IC
IC3003 KIA7805API
DRIVER
Q3002
KTC3209_Y
R3005 220 1/4W
R3002 10 1/4W
C3003 16V 10 KA
C3002 6.3V 220 YK
C3001 1 B
R3003 2.2K 1/4W
HS6S
HS3003
763WAA0157
DRIVER
Q3001
KTC3209_Y
R3008 270 1/4W
D3002 MTZJ12B
C3005 16V 10 KA
C3010 16V 1000 YK
FROM/TO REGULATOR2
CP8001 (CD8501)
A2001WV2-11P
1 GND
2 GND
3 TX
4 RX
5 GND(M)
6 P.CON+9V
7 P.CON+5V
8 P.CON+3.3V
9 P.CON+3.3V
10 GND
11 SPDIF
C3021 56P CH
C3022 56P CH
C3006 0.1 B
SPDIF-134
TO DEMODULATOR/21PIN
AT+11.5V
P.CON+5V_C
P.CON+8V_A
GND
P.CON+9V
TO Y/C/AUDIO/HEAD AMP
P.CON+9V
P.CON+5V_A
GND
VD
D3003 11E1-EIC
FROM/TO MICON
RX
TX
DVD_POWER-H
MOTOR_GND
P.CON+5V_A
P.CON+5V_C
HD
VCR_POWER_H
AT+12V
AT+5.6V
GND
VD
DEGAUSS_H
TV_POWER_H
R3001 1K 1/2W
D3001 MTZJ15B
POWER_FAIL[DC]
FROM/TO CHROMA/IF
P.CON+5V_A
HD
ABCL
H_OUT
P.CON+8V_A
GND
P.CON+5V_C
P.CON+9V
P.CON+30V
V_OUT
V_AMP
TO SOUND AMP
SOUND_GND
SOUND+B
AT+12V
GND
TO SECAM CHROMA/HI-FI
AT+11V
P.CON+5V_A
GND
AT+11.5V
TO TTEXT/RGB SW
AT+5.6V
P.CON+9V
P.CON+5V_C
GND
TO DVD IN/OUT
P.CON+5V_C
AT+5.6V
P.CON+12V
GND
SPDIF-134
SOUND_GND
PCB010
VMC298

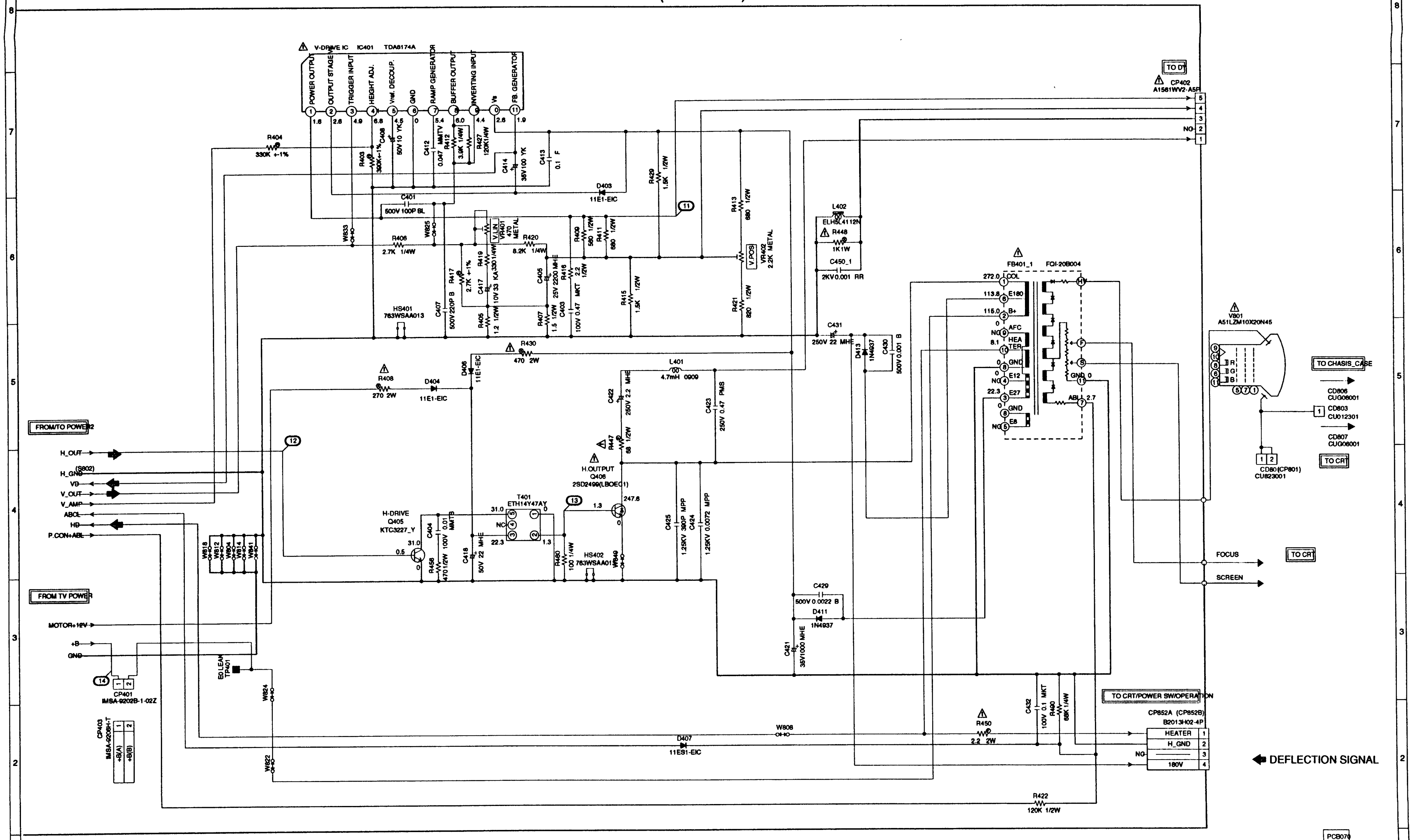
NOTE:THE DC VOLTAGE EACH PART WAS
MEASURED WITH THE DIGITAL TESTER
DURING PLAYBACK.

NOTETHIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

⇦ DEFLECTION SIGNAL
⇦ DIGITAL AUDIO SIGNAL(PB)

DEFLECTION SCHEMATIC DIAGRAM

(MAIN PCB)


⚠ V-DRIVE IC IC401 TDA8174A
POWER OUTPUT
OUTPUT STAGE
TRIGGER INPUT
HEIGHT ADJ.
Vref. DECOUP.
GND
RAMP GENERATOR
BUFFER OUTPUT
INVERTING INPUT
Vs
FB. GENERATOR
1.6
2.6
4.9
6.8
4.5
0
5.4
6.0
4.4
2.6
1.9
R404 330K +-1%
R403 390K+-1%
C408 50V 10 YK
C412 0.047 MMTV
R412 3.9K 1/4W
R427 120K1/4W
C414 35V100 YK
C413 0.1 F
C401 500V 100P SL
D403 11E1-EIC
R429 1.5K 1/2W
11
W833
W825
R406 2.7K 1/4W
V.LIN VR401 470 METAL
R420 8.2K 1/4W
R417 2.7K +-1%
R419 3301/4W
C417 10V 33 KA
C405 25V 2200 MHE
R416 2.2 1/2W
R409 560 1/2W
R411 680 1/2W
R413 680 1/2W
V.POS VR402 2.2K METAL
R421 820 1/2W
R415 1.5K 1/2W
HS401 763WSAA013
C407 500V 220P B
R405 1.2 1/2W
R407 1.5 1/2W
C403 100V 0.47 MKT
⚠ R430 470 2W
D406 11E1-EIC
⚠ R408 270 2W
D404 11E1-EIC
L401 4.7mH 0909
C422 250V 2.2 MHE
C423 250V 0.47 PMS
⚠ R447 68 1/2W
⚠ H.OUTPUT Q406 2SD2499(LBOEC1)
247.6
12
13
T401 ETH14Y47AY
31.0
0
NC
1.3
H-DRIVE Q405 KTC3227_Y
0.5
31.0
C404 100V 0.01 MMTS
R458 4701/2W
C418 50V 22 MHE
22.3
R460 100 1/4W
HS402 763WSAA013
W840
C425 1.25KV 390P MPP
C424 1.25KV 0.0072 MPP
L402 ELH5L4112N
⚠ R448 1K1W
C450_1 2KV0.001 RR
C431 250V 22 MHE
D413 1N4937
C430 500V 0.001 B
⚠ FB401_1 FQI-20B004
272.0 COL
113.8 E180
115.0 B+
0 AFC
NC HEA TER
8.1
0 GND
0 E12
NC
22.3 E27
0 GND
NC E8
H
F
S
GND 0
ABL 2.7
TO DY
⚠ CP402 A1561WV2-A5P
5
4
3
NC 2
1
⚠ V801 A51LZM10X20N45
R
G
B
TO CHASIS_CASE
CD806 CUG06001
CD803 CU012301
CD807 CUG06001
TO CRT
CD80(CP801) CU823001
FOCUS
SCREEN
TO CRT
FROM/TO POWER2
H_OUT
H_GND (S802)
VD
V_OUT
V_AMP
ABCL
HD
P.CON+ABL
W818
W812
W804
W814
W841
FROM TV POWER
MOTOR+12V
+B
GND
14
CP401 IMSA-9202B-1-02Z
EG LEAN TP401
W824
W822
CP403 IMSA-9206H-T
+B(A)
+B(B)
C429 500V 0.0022 B
D411 1N4937
C421 35V1000 MHE
C432 100V 0.1 MKT
R480
R490 68K 1/4W
TO CRT/POWER SW/OPERATION
CP852A (CP852B) B2013H02-4P
HEATER
H_GND
180V
NC
W808
D407 11ES1-EIC
⚠ R450 2.2 2W
R422 120K 1/2W
DEFLECTION SIGNAL

PCB070
TMC568

NOTETHIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

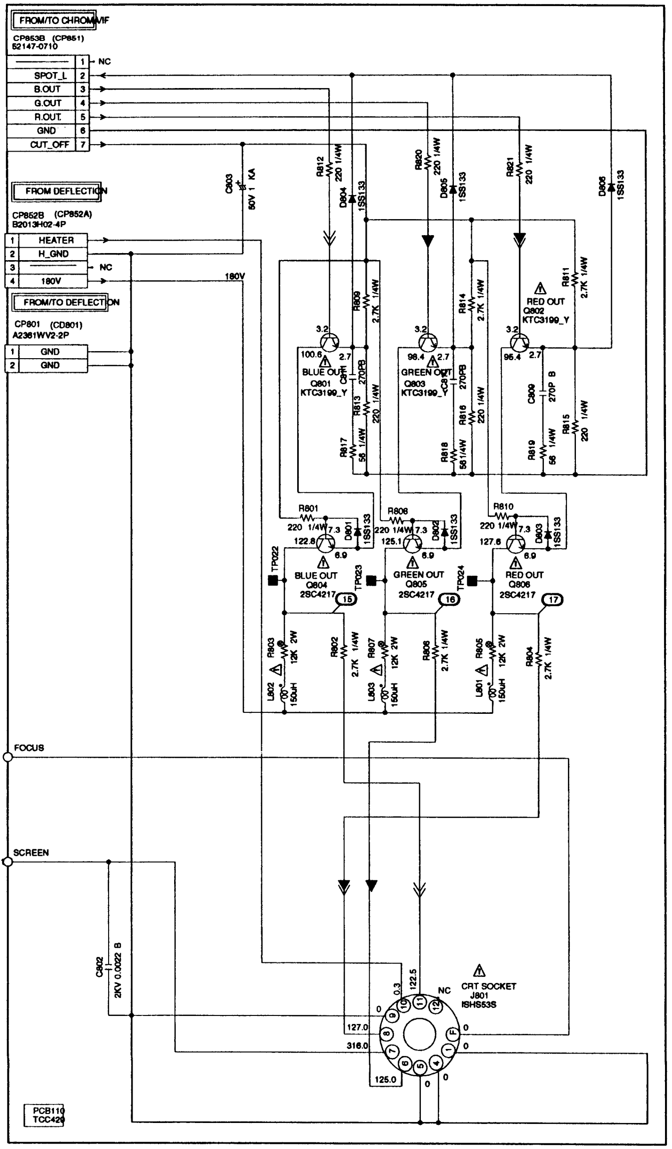
NOTETHE RESISTOR MARKED F IS FUSE RESISTOR.
THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP
IS NON POLAR ONE.

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE
CRITICAL FOR SAFETY,USE ONES
DESCRIBED IN PARTS LIST ONLY

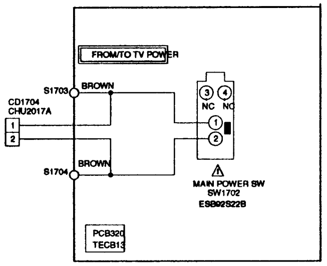
ATTENTION LES PIECES REPAREES PAR ⚠ ETANT
DANGEREUSES AN POINT DE VUE SECURITE
N'UTILISER QUE CELLS DECRITES
DANS LA NOMENCLATURE DES PIECES

CRT/POWER SW/OPERATION SCHEMATIC DIAGRAM

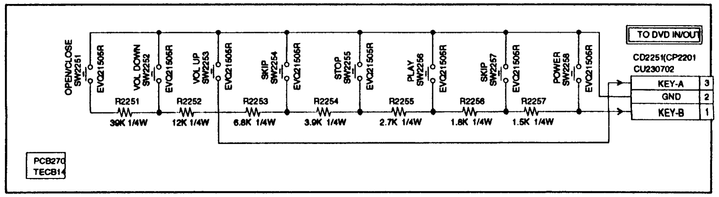
(CRT PCB)

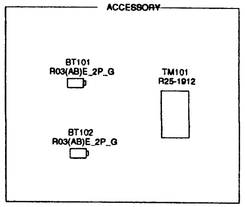

FROM/TO CHROMA/IF
CP853B (CP851)
52147-0710
1 NC
SPOT_L 2
B.OUT 3
G.OUT 4
R.OUT 5
GND 6
CUT_OFF 7
FROM DEFLECTION
CP852B (CP852A)
B2013H02-4P
1 HEATER
2 H_GND
3 NC
4 180V
180V
FROM/TO DEFLECTION
CP801 (CD801)
A2361WV2-2P
1 GND
2 GND
C803 50V 1 KA
R812 220 1/4W
D804 1SS133
R820 220 1/4W
D805 1SS133
R821 220 1/4W
D806 1SS133
R809 2.7K 1/4W
R814 2.7K 1/4W
R811 2.7K 1/4W
BLUE OUT Q801 KTC3199_Y
GREEN OUT Q803 KTC3199_Y
RED OUT Q802 KTC3199_Y
3.2
100.6
98.4
95.4
2.7
C801 270PB
C807 270PB
C809 270P B
R813 220 1/4W
R816 220 1/4W
R815 220 1/4W
R817 56 1/4W
R818 56 1/4W
R819 56 1/4W
R801 220 1/4W
R808 220 1/4W
R810 220 1/4W
7.3
122.8
125.1
127.6
6.9
D801 1SS133
D802 1SS133
D803 1SS133
TP022
TP023
TP024
BLUE OUT Q804 2SC4217
GREEN OUT Q805 2SC4217
RED OUT Q806 2SC4217
15
16
17
R803 12K 2W
R802 2.7K 1/4W
R807 12K 2W
R806 2.7K 1/4W
R805 12K 2W
R804 2.7K 1/4W
L802 150uH
L803 150uH
L801 150uH
FOCUS
SCREEN
CP808_1
C802 2KV 0.0022 B
CRT SOCKET
J801
ISHS53S
NC
0.3
122.5
0
127.0
316.0
125.0
PCB110
TCC420

(POWER SW PCB)


FROM/TO TV POWER
S1703
BROWN
CD1704
CHU2017A
1
2
BROWN
S1704
3 4
NC NC
1
2
MAIN POWER SW
SW1702
ESB92S22B
PCB320
TECB13

(OPERATION PCB)


OPEN/CLOSE SW2251 EVQ21505R
VOL DOWN SW2252 EVQ21505R
VOL UP SW2253 EVQ21505R
SKIP SW2254 EVQ21505R
STOP SW2255 EVQ21505R
PLAY SW2256 EVQ21505R
SKIP SW2257 EVQ21505R
POWER SW2258 EVQ21505R
R2251 39K 1/4W
R2252 12K 1/4W
R2253 6.8K 1/4W
R2254 3.9K 1/4W
R2255 2.7K 1/4W
R2256 1.8K 1/4W
R2257 1.5K 1/4W
TO DVD IN/OUT
CD2251(CP2201
CU230702
KEY-A 3
GND 2
KEY-B 1
PCB270
TECB14


ACCESSORY
BT101
R03(AB)E_2P_G
BT102
R03(AB)E_2P_G
TM101
R25-1912

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTETHIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

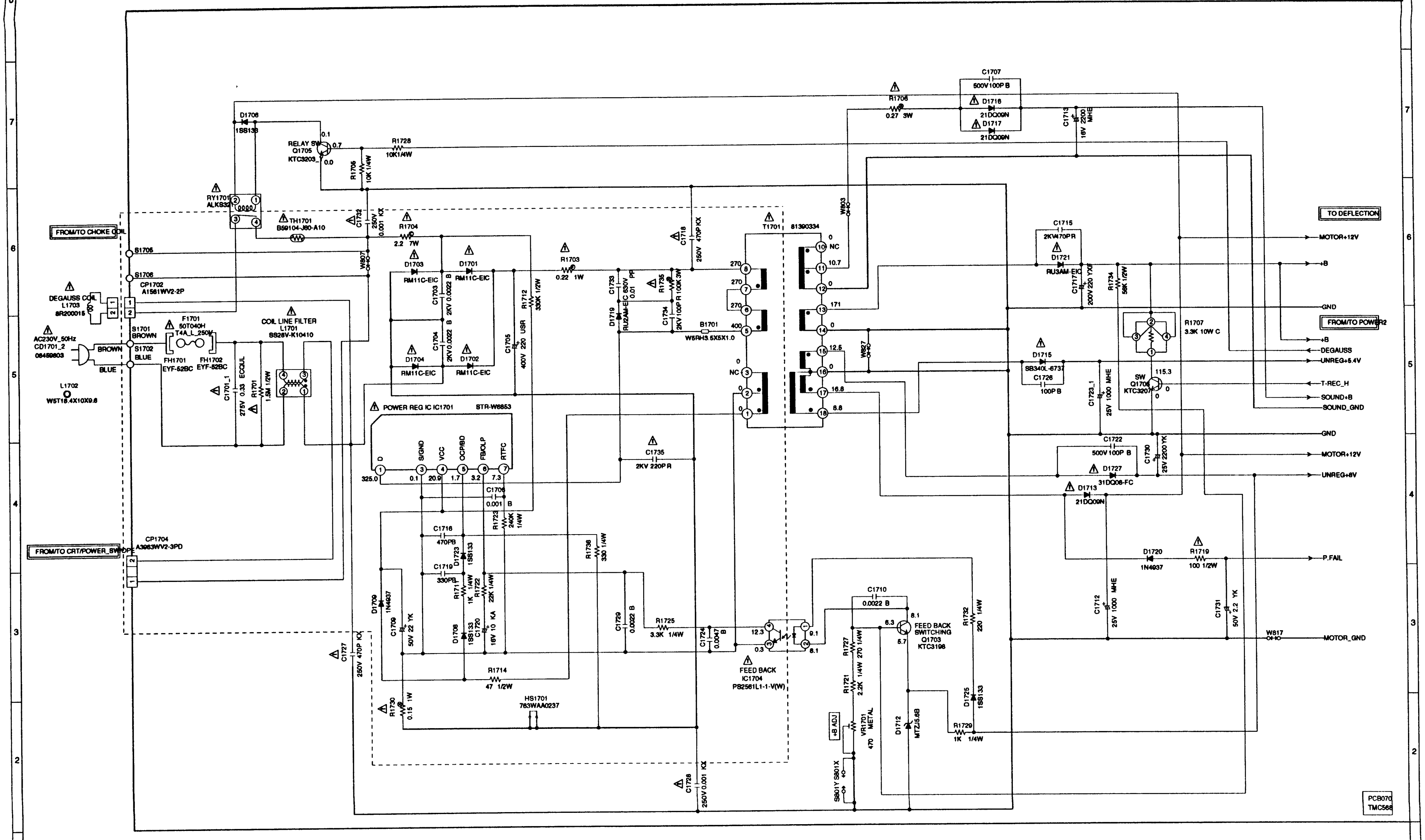
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE
CRITICAL FOR SAFETY,USE ONES
DESCRIBED IN PARTS LIST ONLY

ATTENTION: LES PIECES REPAREES PAR ⚠ ETANT
DANGEREUSES AN POINT DE VUE SECURITE
N'UTILISER QUE CELLS DECRITES
DANS LA NOMENCLATURE DES PIECES

◀◀ R.SIGNAL
◀ G.SIGNAL
≪ B.SIGNAL

TV POWER SCHEMATIC DIAGRAM

(MAIN PCB)



FROM/TO CHOKE COIL
S1705
S1706
CP1702
A1561WV2-2P
DEGAUSS COIL
L1703
8R200015
AC230V_50Hz
CD1701_2
08459803
BROWN
BLUE
S1701
BROWN
S1702
BLUE
L1702
W5T18.4X10X9.6
F1701
50T040H
T4A_L_250V
FH1701
EYF-52BC
FH1702
EYF-52BC
COIL LINE FILTER
L1701
SS26V-K10410
C1701_1
275V 0.33 ECQUL
R1701
1.5M 1/2W
RY1701
ALKS321
TH1701
B59104-J80-A10
D1706
1SS133
RELAY SW
Q1705
KTC3203
R1705
10K 1/4W
R1728
10K1/4W
C1732
250V 0.001 KX
R1704
2.2 7W
W807
D1703
RM11C-EIC
D1701
RM11C-EIC
D1704
RM11C-EIC
D1702
RM11C-EIC
C1703
2KV 0.0022 B
C1704
2KV 0.0022 B
C1705
400V 220 USR
R1712
330K 1/2W
R1703
0.22 1W
C1733
630V 0.01 PP
D1719
RU3AM-EIC
R1735
100K 3W
C1734
2KV 100P R
B1701
W5RH3.5X5X1.0
C1718
250V 470P KX
T1701
81390334
NC
W803
POWER REG IC IC1701
STR-W6853
D
S/GND
VCC
OCP/BD
FB/OLP
RTFC
325.0
0.1
20.9
1.7
3.2
7.3
C1706
0.001 B
C1716
470PB
C1719
330PB
D1723
1SS133
R1711
1K 1/4W
R1722
22K 1/4W
R1723
240K 1/4W
D1709
1N4937
C1709
50V 22 YK
D1708
1SS133
C1720
16V 10 KA
C1727
250V 470P KX
R1714
47 1/2W
R1730
0.15 1W
HS1701
763WAA0237
R1736
330 1/4W
C1729
0.0022 B
R1725
3.3K 1/4W
C1724
0.0047 B
C1735
2KV 220P R
FEED BACK
IC1704
PS2561L1-1-V(W)
C1728
250V 0.001 KX
C1710
0.0022 B
FEED BACK SWITCHING
Q1703
KTC3198
R1727
270 1/4W
R1721
2.2K 1/4W
VR1701
470 METAL
+B ADJ
S801Y S801X
D1712
MTZJ5.6B
R1729
1K 1/4W
D1725
1SS133
R1732
220 1/4W
R1706
0.27 3W
C1707
500V100P B
D1716
21DQ09N
D1717
21DQ09N
C1713
16V 2200 MHE
C1715
2KV470P R
D1721
RU3AM-EIC
C1717
200V 220 YXF
R1734
56K 1/2W
R1707
3.3K 10W C
W827
D1715
SB340L-6737
C1726
100P B
C1723_1
25V 1000 MHE
SW
Q1706
KTC3207
115.3
C1722
500V 100P B
C1730
25V 2200 YK
D1727
31DQ06-FC
D1713
21DQ09N
D1720
1N4937
R1719
100 1/2W
C1712
25V 1000 MHE
C1731
50V 2.2 YK
W817
TO DEFLECTION
MOTOR+12V
+B
GND
FROM/TO POWER2
+B
DEGAUSS
UNREG+5.4V
T-REC_H
SOUND+B
SOUND_GND
GND
MOTOR+12V
UNREG+6V
P.FAIL
MOTOR_GND
FROM/TO CRT/POWER_SW/OPE
CP1704
A3963WV2-3PD
PCB070
TMC568

ATTENTION LES PIECES REPAREES PAR ⚠ ETANT
DANGEREUSES AN POINT DE VUE SECURITE
N'UTILISER QUE CELLS DECRITES
DANS LA NOMENCLATURE DES PIECES

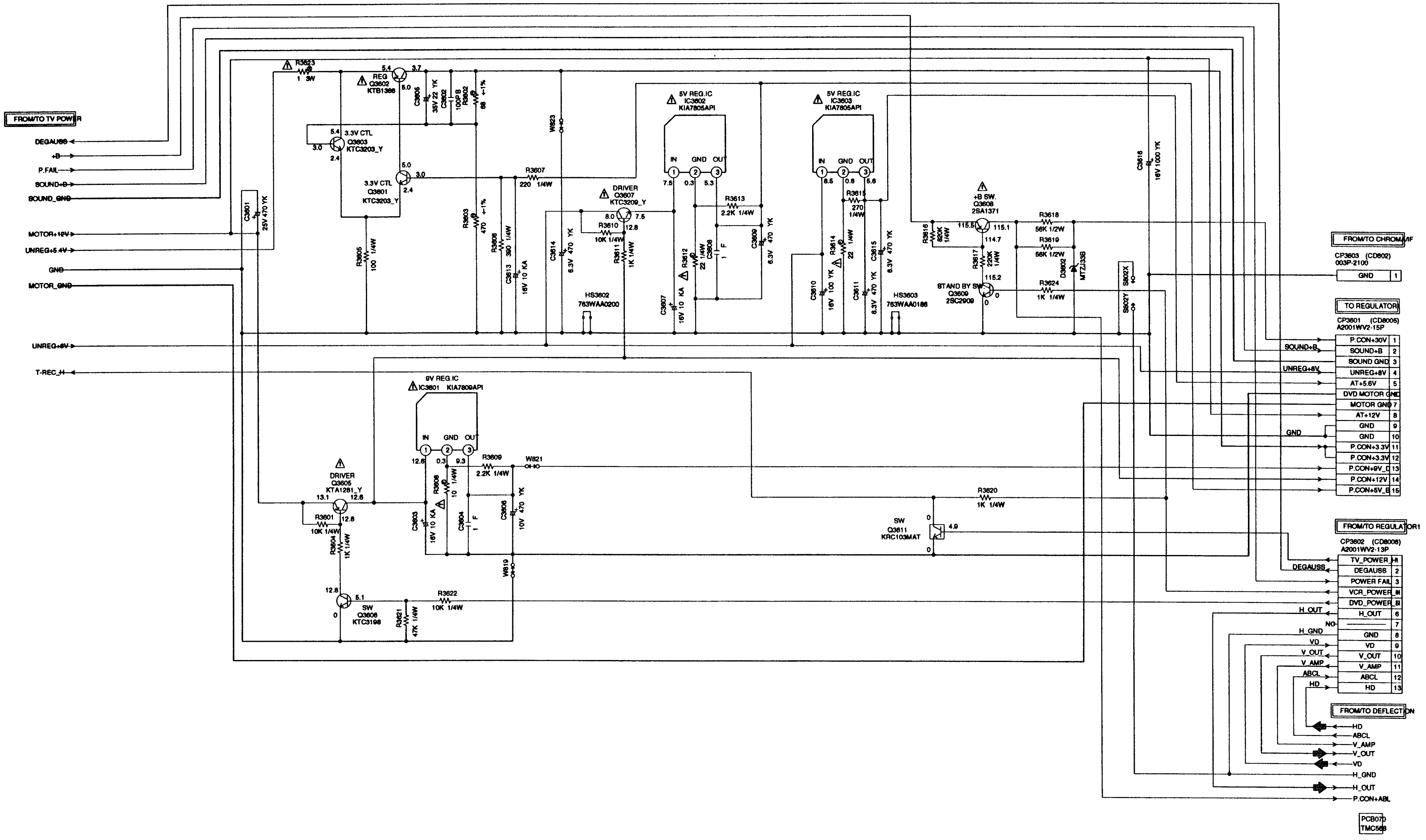
CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE
CRITICAL FOR SAFETY,USE ONES
DESCRIBED IN PARTS LIST ONLY

NOTE THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

POWER2 SCHEMATIC DIAGRAM

(MAIN PCB)


FROM/TO TV POWER
DEGAUSS
+B
P.FAIL
SOUND+B
SOUND_GND
MOTOR+12V
UNREG+5.4V
GND
MOTOR_GND
UNREG+8V
T-REC_H
R3623 1 3W
REG Q3602 KTB1366
5.4
3.7
5.0
C3605 35V 22 YK
C3602 100P B
R3602 68 +-1%
3.3V CTL Q3603 KTC3203_Y
3.0
2.4
3.3V CTL Q3601 KTC3203_Y
R3605 100 1/4W
C3601 25V 470 YK
R3603 470 +-1%
R3608 390 1/4W
C3613 16V 10 KA
R3607 220 1/4W
W823
DRIVER Q3607 KTC3209_Y
8.0
7.5
12.8
R3610 10K 1/4W
R3611 1K 1/4W
C3614 6.3V 470 YK
HS3602 763WAA0200
5V REG.IC IC3602 KIA7805API
IN GND OUT
7.5 0.3 5.3
R3613 2.2K 1/4W
R3612 22 1/4W
C3608 1 F
C3607 16V 10 KA
C3609 6.3V 470 YK
5V REG.IC IC3603 KIA7805API
8.5 0.6 5.6
R3615 270 1/4W
R3614 22 1/4W
C3610 16V 100 YK
C3611 6.3V 470 YK
C3615 6.3V 470 YK
HS3603 763WAA0186
+B SW. Q3608 2SA1371
115.5
115.1
114.7
115.2
R3616 820K 1/4W
R3617 220K 1/4W
STAND BY SW Q3609 2SC2909
R3618 56K 1/2W
R3619 56K 1/2W
R3624 1K 1/4W
D3602 MTZJ33B
C3616 16V 1000 YK
S802X
S802Y
9V REG.IC IC3601 KIA7809API
IN GND OUT
12.6 0.3 9.3
R3609 2.2K 1/4W
W821
R3606 10 1/4W
C3603 16V 10 KA
C3604 1 F
C3606 10V 470 YK
W819
DRIVER Q3605 KTA1281_Y
13.1 12.6 12.8
R3601 10K 1/4W
R3604 1K 1/4W
SW Q3606 KTC3198
12.8 5.1 0
R3621 47K 1/4W
R3622 10K 1/4W
R3620 1K 1/4W
SW Q3611 KRC103MAT
0 4.9 0
FROM/TO CHROMA/IF
CP3603 (CD602) 003P-2100
GND 1
TO REGULATOR
CP3601 (CD8005) A2001WV2-15P
SOUND+B
UNREG+8V
GND
P.CON+30V 1
SOUND+B 2
SOUND GND 3
UNREG+8V 4
AT+5.6V 5
DVD MOTOR GND
MOTOR GND 7
AT+12V 8
GND 9
GND 10
P.CON+3.3V 11
P.CON+3.3V 12
P.CON+9V_D 13
P.CON+12V 14
P.CON+5V_B 15
FROM/TO REGULATOR1
CP3602 (CD8006) A2001WV2-13P
DEGAUSS
H_OUT
NC
H_GND
VD
V_OUT
V_AMP
ABCL
HD
TV_POWER_H
DEGAUSS 2
POWER FAIL 3
VCR_POWER_H
DVD_POWER_B
H_OUT 6
7
GND 8
VD 9
V_OUT 10
V_AMP 11
ABCL 12
HD 13
FROM/TO DEFLECTION
HD
ABCL
V_AMP
V_OUT
VD
H_GND
H_OUT
P.CON+ABL
PCB070
TMC568

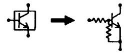
NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY

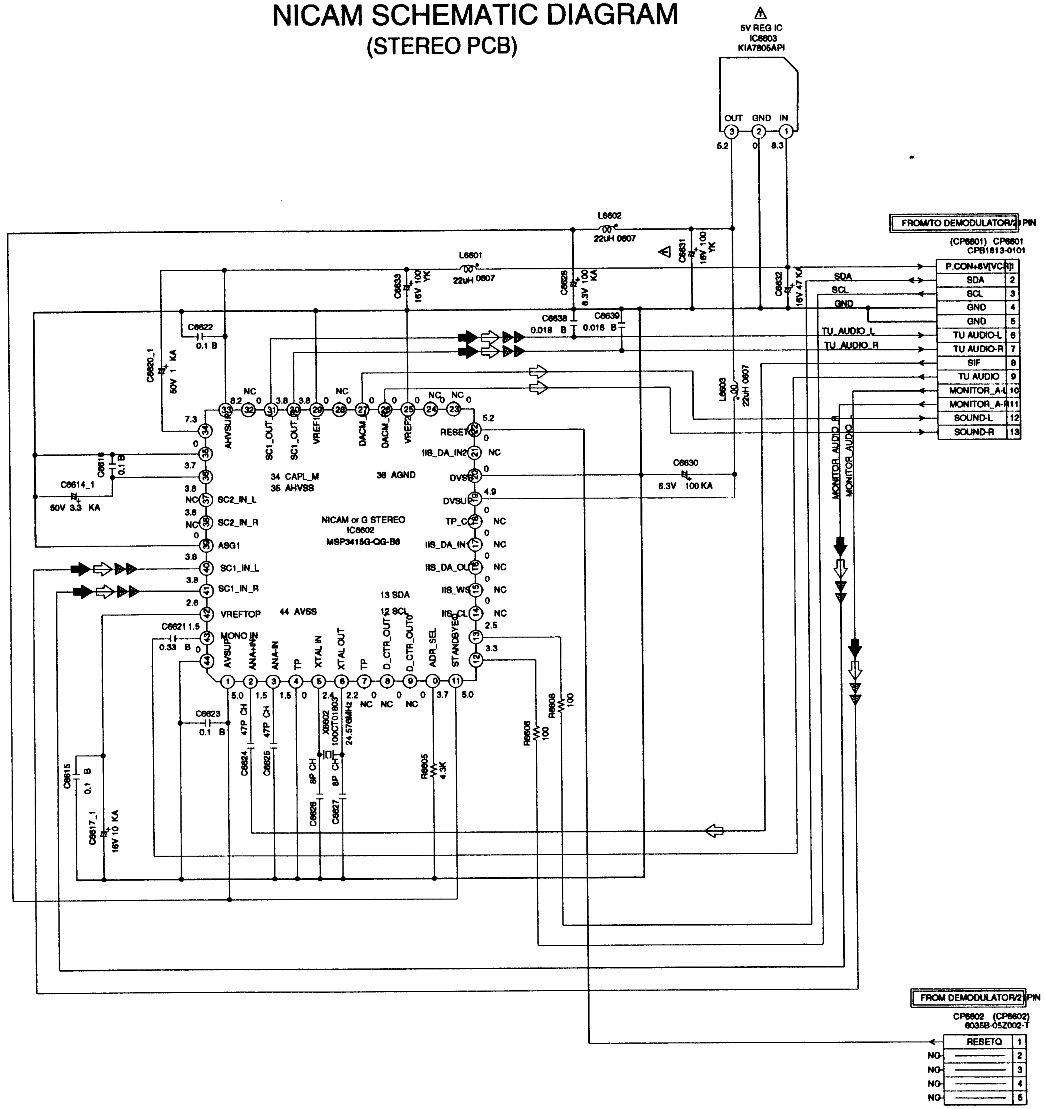
ATTENTION: LES PIECES REPAREES PAR ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

CAUTION: DIGITAL TRANSISTOR



⬅ DEFLECTION SIGNAL

NICAM SCHEMATIC DIAGRAM
(STEREO PCB)


5V REG IC
IC6603
KIA7805API
OUT GND IN
5.2 0 8.3
L6602
22uH 0607
L6601
22uH 0607
C6631 16V 100 YK
C6633 16V 100 YK
C6628 6.3V 100 KA
C6632 16V 47 KA
C6638 0.018 B
C6639 0.018 B
C6622 0.1 B
C6620_1 50V 1 KA
C6618 0.1 B
C6614_1 50V 3.3 KA
L6603 22uH 0607
C6630 6.3V 100KA
FROM/TO DEMODULATOR/21PIN
(CP6601) CP6601
CPB1813-0101
P.CON+8V[VCR] 1
SDA 2
SCL 3
GND 4
GND 5
TU AUDIO-L 6
TU AUDIO-R 7
SIF 8
TU AUDIO 9
MONITOR_A-L 10
MONITOR_A-R 11
SOUND-L 12
SOUND-R 13
SDA
SCL
GND
TU_AUDIO_L
TU_AUDIO_R
MONITOR_AUDIO_R
MONITOR_AUDIO_L
NICAM or G STEREO
IC6602
MSP3415G-QG-B8
34 CAPL_M
35 AHVSS
36 AGND
44 AVSS
13 SDA
12 SCL
AHVSUP
SC1_OUT_L
SC1_OUT_R
VREF1
DACM_L
DACM_R
VREF2
RESETQ
IIS_DA_IN2
DVSS
DVSUP
TP_CO
IIS_DA_IN1
IIS_DA_OUT
IIS_WS
IIS_CL
SC2_IN_L
SC2_IN_R
ASG1
SC1_IN_L
SC1_IN_R
VREFTOP
MONO IN
AVSUP
ANA+IN+
ANA-IN
TP
XTAL IN
XTAL OUT
TP
D_CTR_OUT1
D_CTR_OUT0
ADR_SEL
STANDBYEQ
NC
C6621 0.33 B
C6623 0.1 B
C6624 47P CH
C6625 47P CH
C6626 8P CH
C6627 8P CH
X6602 100CT01803 24.576MHz
R6605 4.3K
R6606 100
R6608 100
C6615 0.1 B
C6617_1 16V 10 KA
FROM DEMODULATOR/21PIN
CP6602 (CP6602)
8035B-05Z002-T
RESETQ 1
NC 2
NC 3
NC 4
NC 5

PCB310
VEB96

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

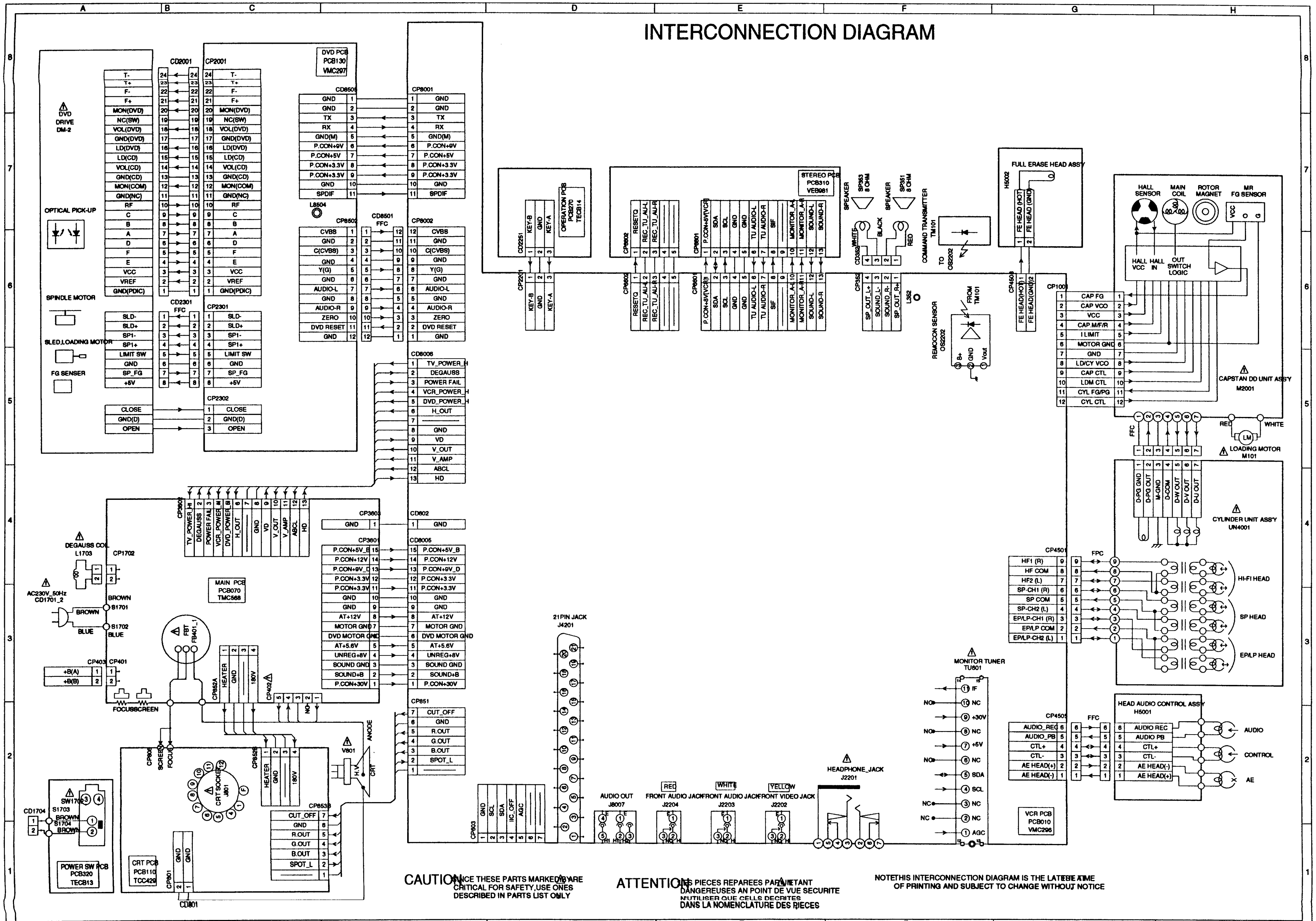
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY

ATTENTION: LES PIECES REPAREES PAR ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

⬅ AUDIO SIGNAL(PB)
⇦ AUDIO SIGNAL(REC)
◀◀ TUNER AUDIO SIGNAL

INTERCONNECTION DIAGRAM


DVD DRIVE DM-2
OPTICAL PICK-UP
SPINDLE MOTOR
SLED,LOADING MOTOR
FG SENSER
CD2001
CP2001
T-
T+
F-
F+
MON(DVD)
NC(SW)
VOL(DVD)
GND(DVD)
LD(DVD)
LD(CD)
VOL(CD)
GND(CD)
MON(COM)
GND(NC)
RF
C
B
A
D
F
E
VCC
VREF
GND(PDIC)
CD2301 FFC
CP2301
SLD-
SLD+
SP1-
SP1+
LIMIT SW
GND
SP_FG
+5V
CP2302
CLOSE
GND(D)
OPEN
DVD PCB PCB130 VMC297
CD8505
CP8001
GND
TX
RX
GND(M)
P.CON+9V
P.CON+5V
P.CON+3.3V
SPDIF
L8504
CP8502
CD8501 FFC
CP8002
CVBS
C(CVBS)
Y(G)
AUDIO-L
AUDIO-R
ZERO
DVD RESET
CD8006
TV_POWER_H
DEGAUSS
POWER FAIL
VCR_POWER_H
DVD_POWER_H
H_OUT
VD
V_OUT
V_AMP
ABCL
HD
CP3602
CP3603
CD602
CP3601
CD8005
P.CON+5V_B
P.CON+12V
P.CON+9V_D
AT+12V
MOTOR GND
DVD MOTOR GND
AT+5.6V
UNREG+8V
SOUND GND
SOUND+B
P.CON+30V
MAIN PCB PCB070 TMC568
DEGAUSS COIL L1703
CP1702
AC230V_50Hz CD1701_2
BROWN
BLUE
S1701
S1702
CP403
CP401
+B(A)
+B(B)
FOCUS
SCREEN
FBT FB401_1
CP852A
HEATER
180V
CP402
NC
CP851
CUT_OFF
R.OUT
G.OUT
B.OUT
SPOT_L
V801
ANODE
CRT
H.V.
CP806
SCREEN
FOCUS
CRT SOCKET J801
CP852B
CP853B
CRT PCB PCB110 TCC429
CP801
CD801
SW1702
CD1704
S1703
S1704
POWER SW PCB PCB320 TECB13
CD2251
KEY-B
KEY-A
OPERATION PCB PCB270 TECB14
CP2201
CP6602
RESETQ
REC_TU_AU-L
REC_TU_AU-R
CP6601
P.CON+8V(VCR)
SDA
SCL
TU AUDIO-L
TU AUDIO-R
SIF
MONITOR_A-L
MONITOR_A-R
SOUND-L
SOUND-R
STEREO PCB PCB310 VEB981
CD6602
CD6601
SPEAKER SP353 8 OHM
SPEAKER SP351 8 OHM
WHITE
BLACK
RED
CD352
CP352
SP_OUT_L+
SOUND_L-
SOUND_R-
SP_OUT_R+
L352
COMMAND TRANSMITTER TM101
TO OS2202
FROM TM101
REMOCON SENSOR OS2202
B+
GND
Vout
FULL ERASE HEAD ASSY
H5002
FE HEAD (HOT)
FE HEAD (GND)
CP4503
CP1001
CAP FG
CAP VCO
VCC
CAP.M/F/R
I LIMIT
MOTOR GND
LD/CY VCO
CAP CTL
LDM CTL
CYL FG/PG
CYL CTL
HALL SENSOR
MAIN COIL
ROTOR MAGNET
MR FG SENSOR
HALL VCC
HALL IN
OUT SWITCH LOGIC
CAPSTAN DD UNIT ASSY M2001
FFC
RED
WHITE
LM
LOADING MOTOR M101
D-PG GND
D-PG OUT
M-GND
D-COM
D-W OUT
D-V OUT
D-U OUT
CYLINDER UNIT ASSY UN4001
CP4501
FPC
HF1 (R)
HF COM
HF2 (L)
SP-CH1 (R)
SP COM
SP-CH2 (L)
EP/LP-CH1 (R)
EP/LP COM
EP/LP-CH2 (L)
HI-FI HEAD
SP HEAD
EP/LP HEAD
21PIN JACK J4201
MONITOR TUNER TU601
IF
NC
+30V
+5V
AGC
CP4505
AUDIO_REC
AUDIO_PB
CTL+
CTL-
AE HEAD(+)
AE HEAD(-)
HEAD AUDIO CONTROL ASSY H5001
AUDIO REC
AUDIO PB
AUDIO
CONTROL
AE
VCR PCB PCB010 VMC296
CP603
IIC_OFF
AGC
AUDIO OUT J8007
RED
FRONT AUDIO JACK J2204
WHITE
FRONT AUDIO JACK J2203
YELLOW
FRONT VIDEO JACK J2202
HEADPHONE_JACK J2201

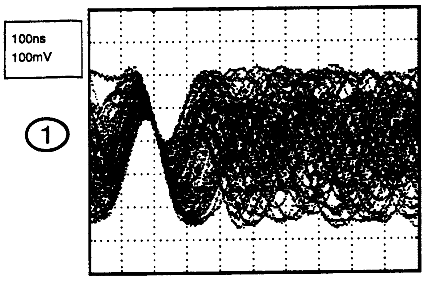
CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY

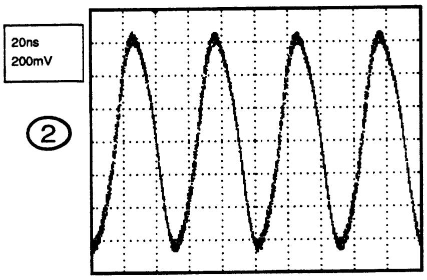
ATTENTION LES PIECES REPAREES PAR ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

NOTE THIS INTERCONNECTION DIAGRAM IS THE LATEST AT TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

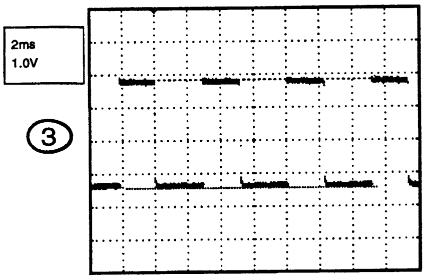
WAVEFROM

RF_AMP/DSP

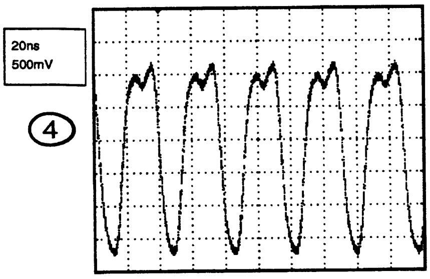




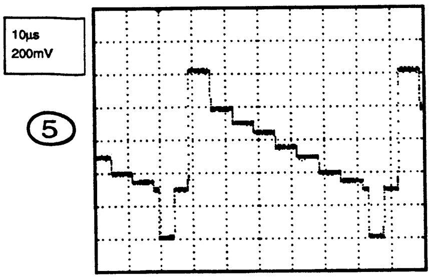
MOTOR DRIVE

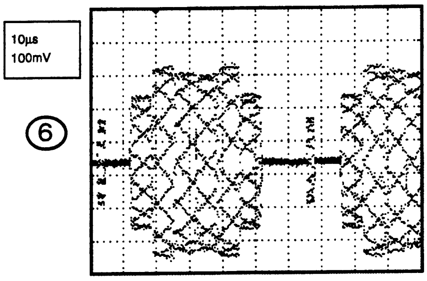


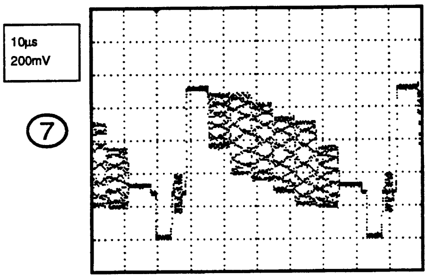
MPEG

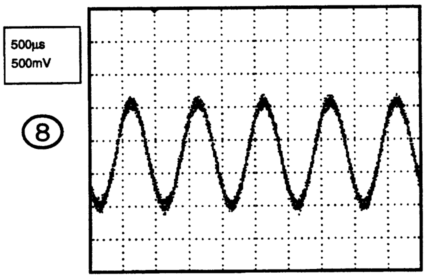


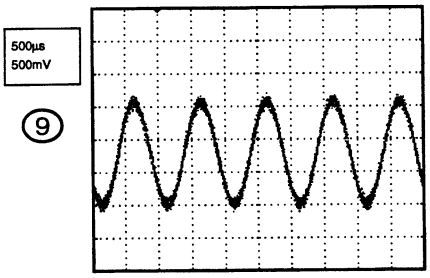
AUDIO/VIDEO



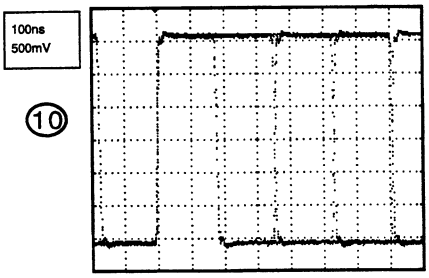




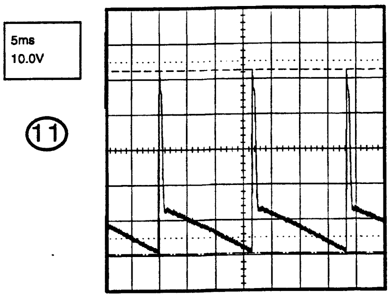


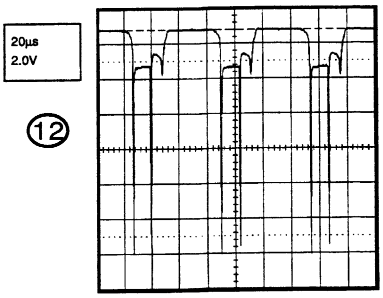


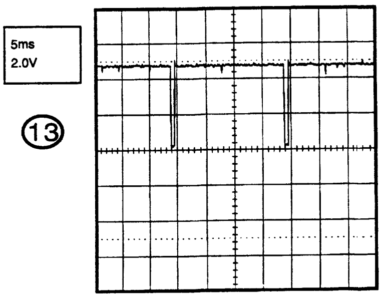
REGULATOR 2

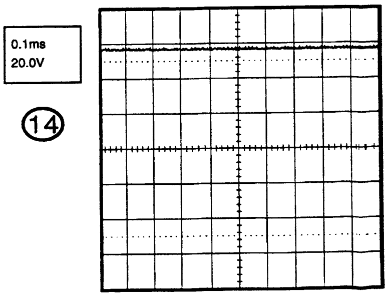


DEFLECTION

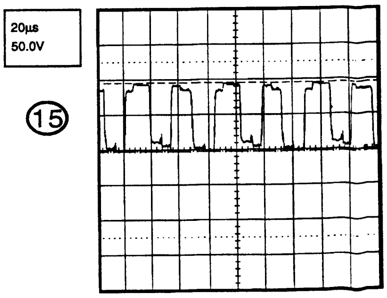






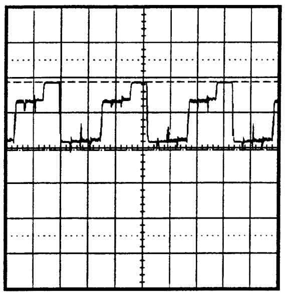


CRT



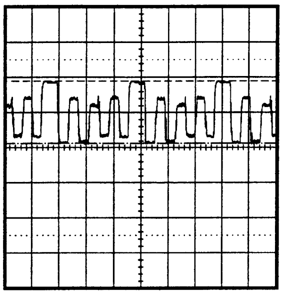
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFROM



20µs
50.0V

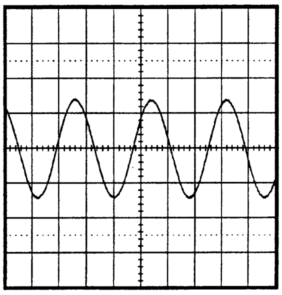
⑯



20µs
50.0V

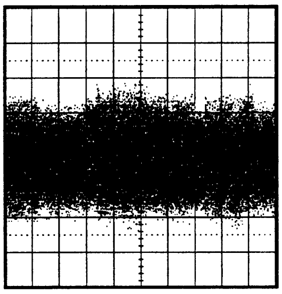
⑰

Y/C/AUDIO/HEAD AMP



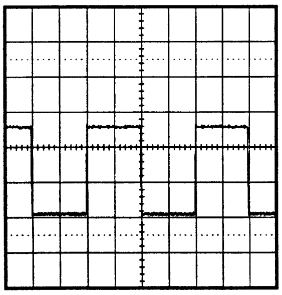
REC
5µs
20.0V

⑳



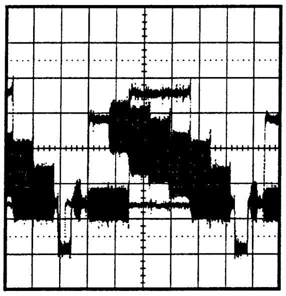
PB
5ms
50mV

㉑



PB
10ms
2.0V

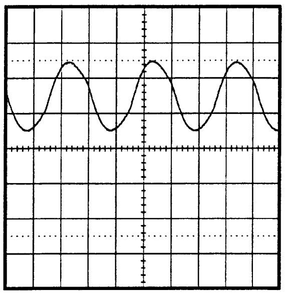
㉒



REC
10µs
0.5V

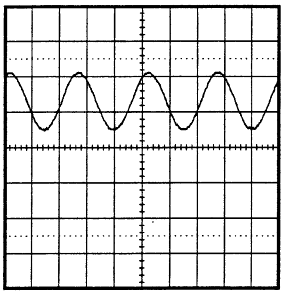
㉓

MICON



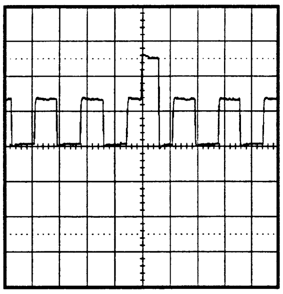
REC
10µs
1.0V

㉔



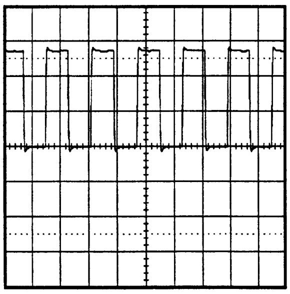
REC
1ms
2.0V

㉕



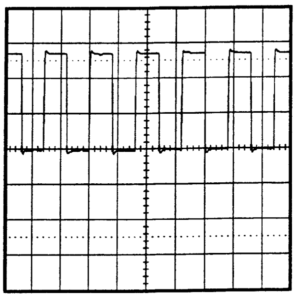
REC
1ms
2.0V

㉖



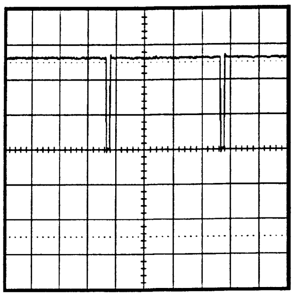
PB
0.5µs
2.0V

㉗



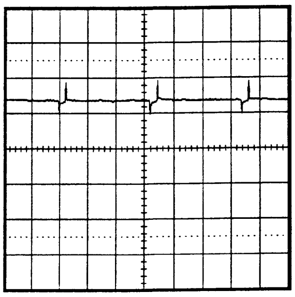
PB
0.5µs
2.0V

㉘



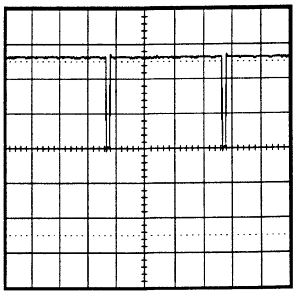
REC
5ms
2.0V

㉙



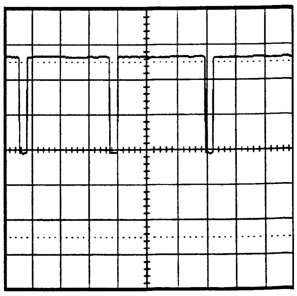
REC
20µs
2.0V

㉚



REC
5ms
2.0V

㉛



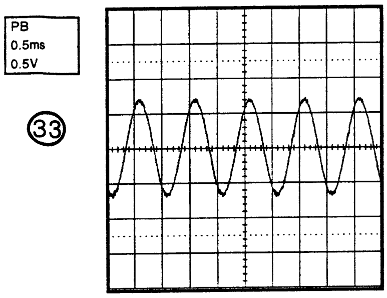
REC
20µs
2.0V

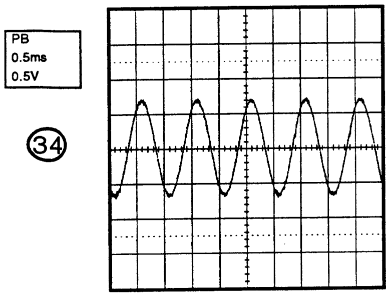
㉜

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

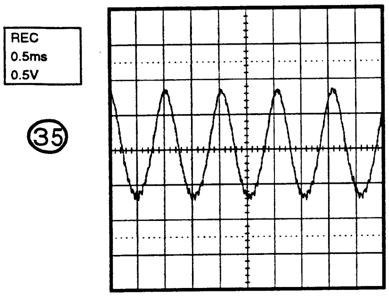
WAVEFROM

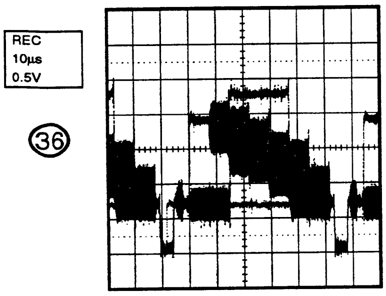
DVD IN/OUT



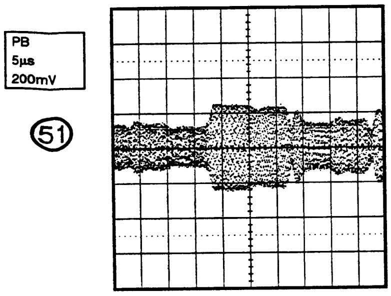


DEMODULATOR/21PIN



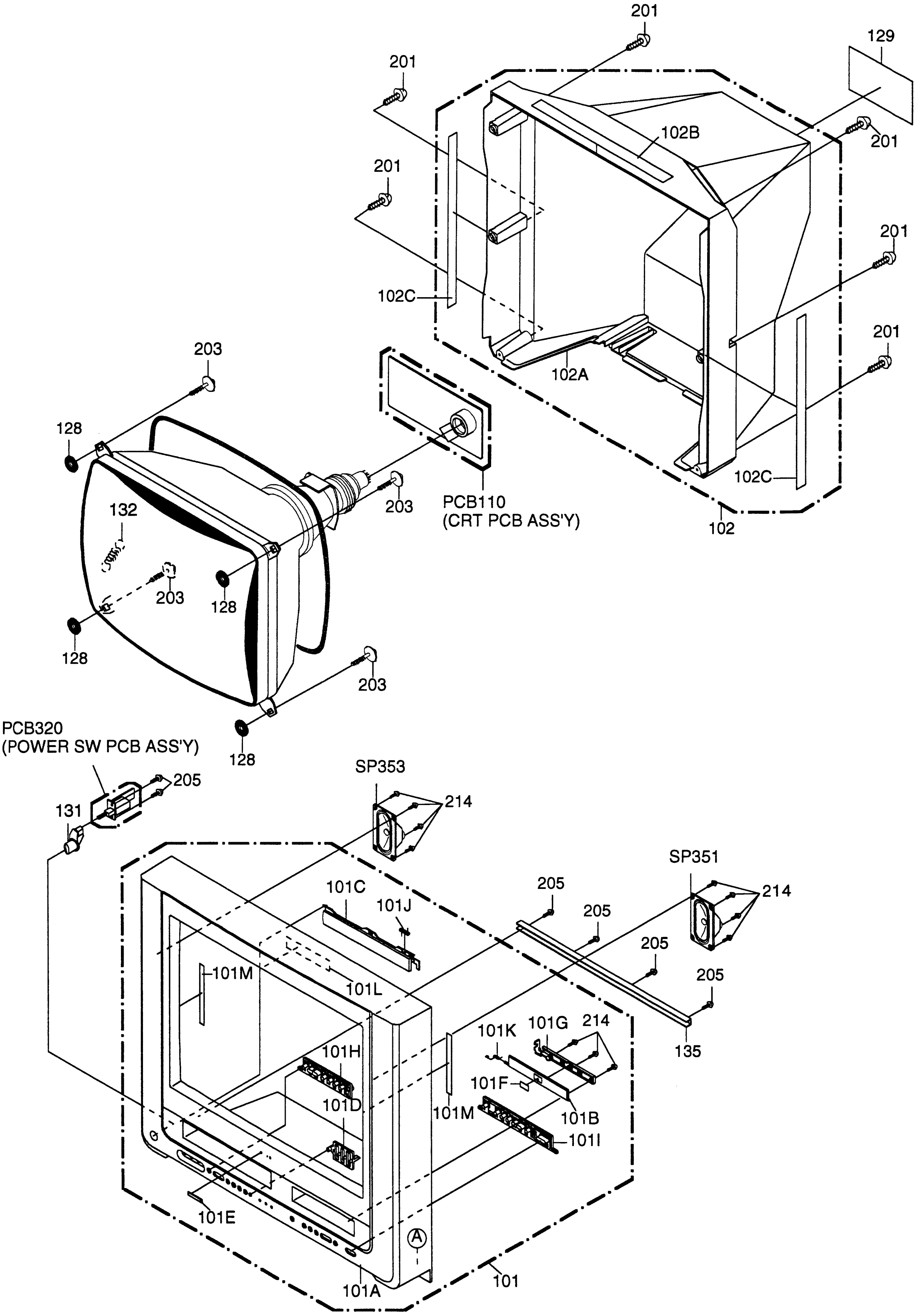


SECAM CHROMA/HI-FI

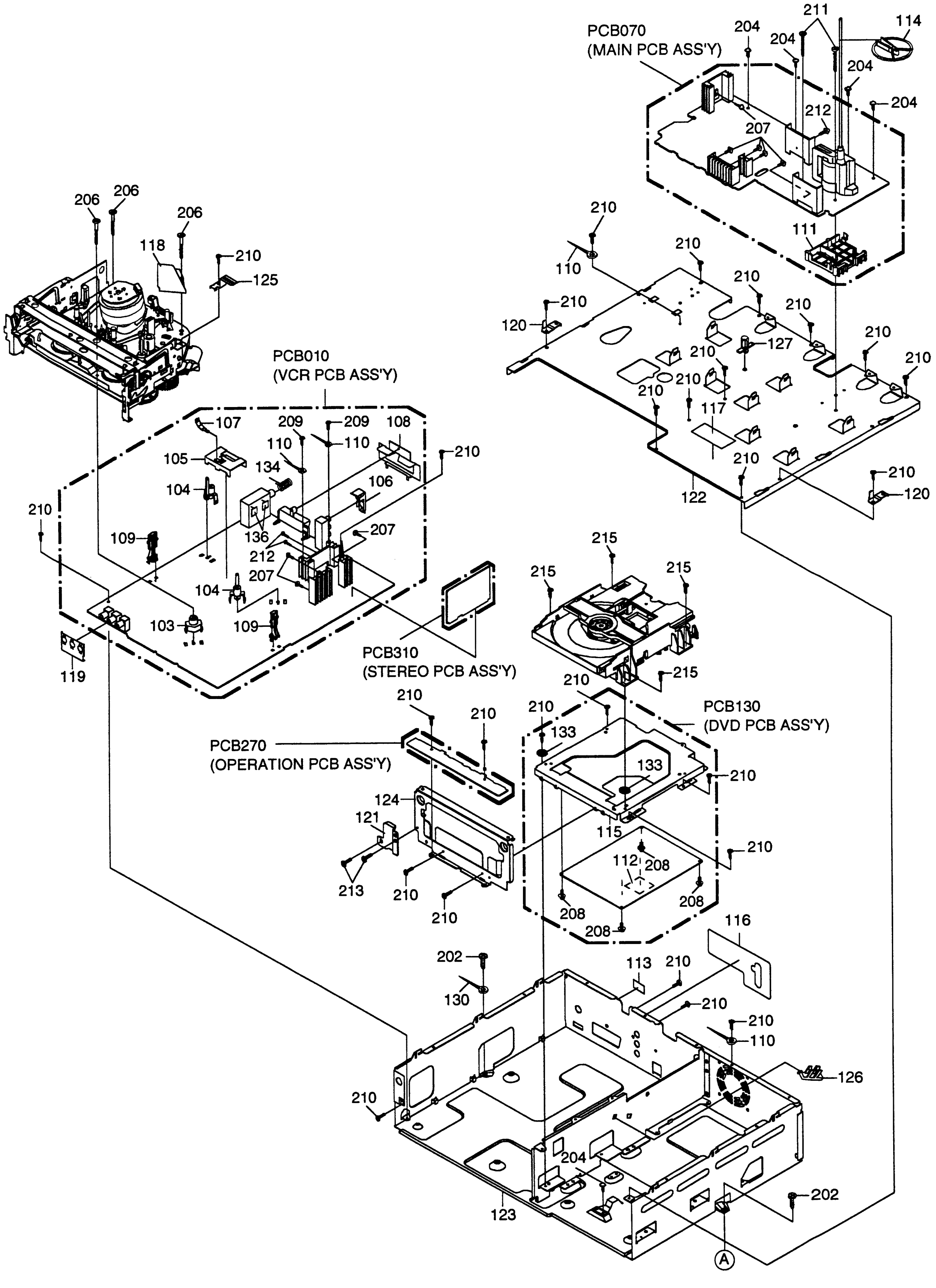


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

MECHANICAL EXPLODED VIEW

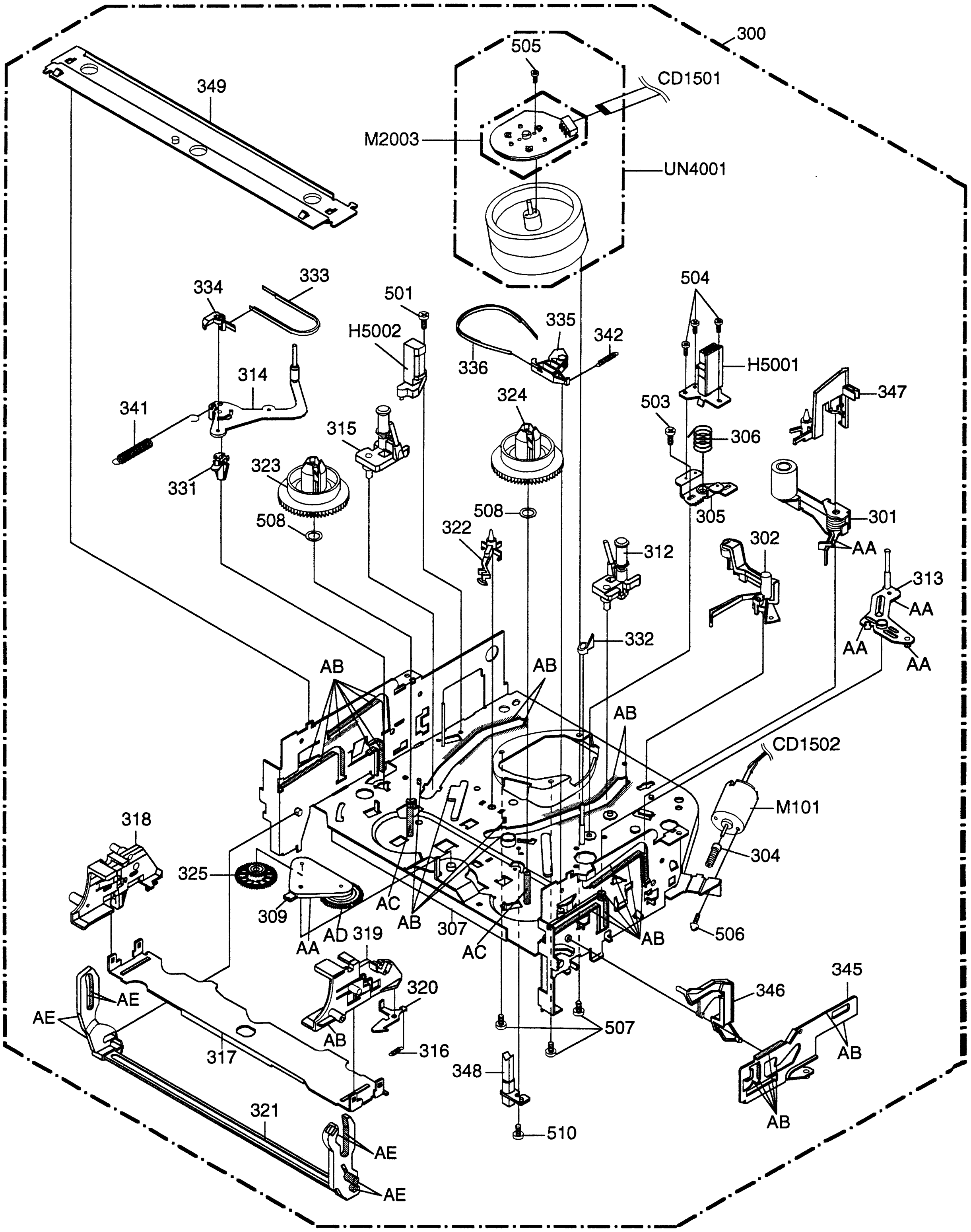

201
129
201
102B
201
201
201
201
102C
102A
203
128
PCB110
(CRT PCB ASS'Y)
102C
102
132
203
203
128
128
203
128
PCB320
(POWER SW PCB ASS'Y)
205
131
SP353
214
SP351
214
101C
101J
205
205
205
205
101M
101L
101K
101G
214
135
101H
101F
101D
101M
101B
101I
101E
A
101A
101

MECHANICAL EXPLODED VIEW



PCB070
(MAIN PCB ASS'Y)
204
211
114
204
204
204
212
207
111
210
110
210
210
210
120
127
210
210
210
210
210
117
210
122
210
120
206
206
206
118
210
125
PCB010
(VCR PCB ASS'Y)
107
209
209
108
110
110
105
134
210
104
106
210
109
136
207
212
207
104
103
109
119
PCB310
(STEREO PCB ASS'Y)
215
215
215
215
210
PCB130
(DVD PCB ASS'Y)
210
210
210
133
133
PCB270
(OPERATION PCB ASS'Y)
210
124
121
115
210
112
208
213
210
210
208
208
208
116
202
113
210
130
210
210
110
126
210
204
123
202
A

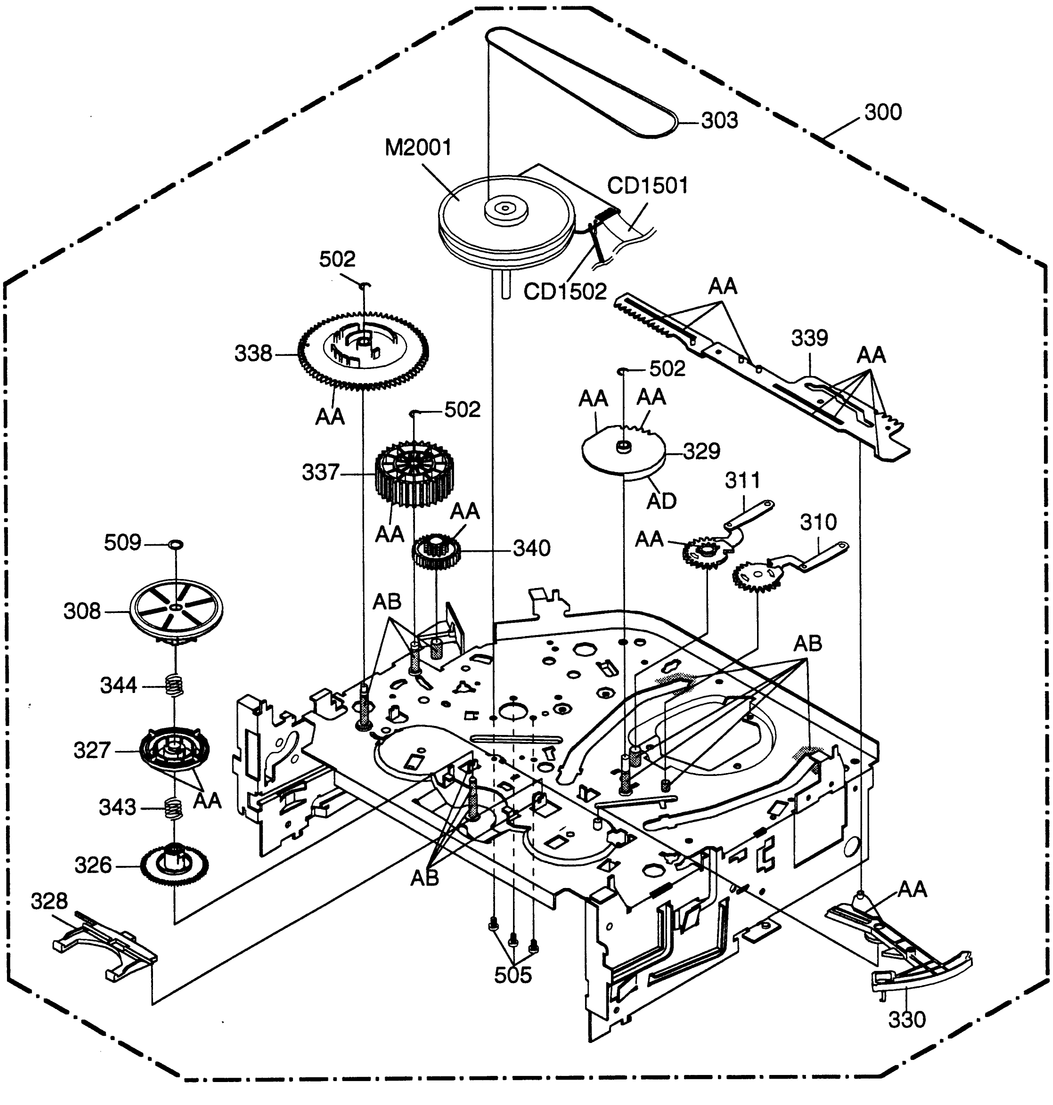
CHASSIS EXPLODED VIEW (TOP VIEW)


300
505
CD1501
M2003
UN4001
349
334
333
501
H5002
335
342
336
504
H5001
347
314
341
324
503
306
315
323
331
508
508
322
305
301
302
AA
312
313
AA
332
AA
AA
AB
AB
AB
CD1502
M101
318
304
325
AC
309
AB
307
AB
506
AA
AD
319
AC
345
320
346
AE
AE
507
AB
317
316
AB
348
321
AB
510
AE
AE

CLASS	PART NO.	PART NAME	MARK
GREASE	Y315061000	G-555G	AA
	Y315071000	MG-33	AB
	Y31D011000	FG-84M	AC
	Y315041000	FL-721	AD
	Y315141000	G-313Y	AE

NOTE: Applying pos1itions AA, AB, AC, AD and AE for the grease are displayed for this section. Check if the correct grease is applied for each position.

CHASSIS EXPLODED VIEW (BOTTOM VIEW)

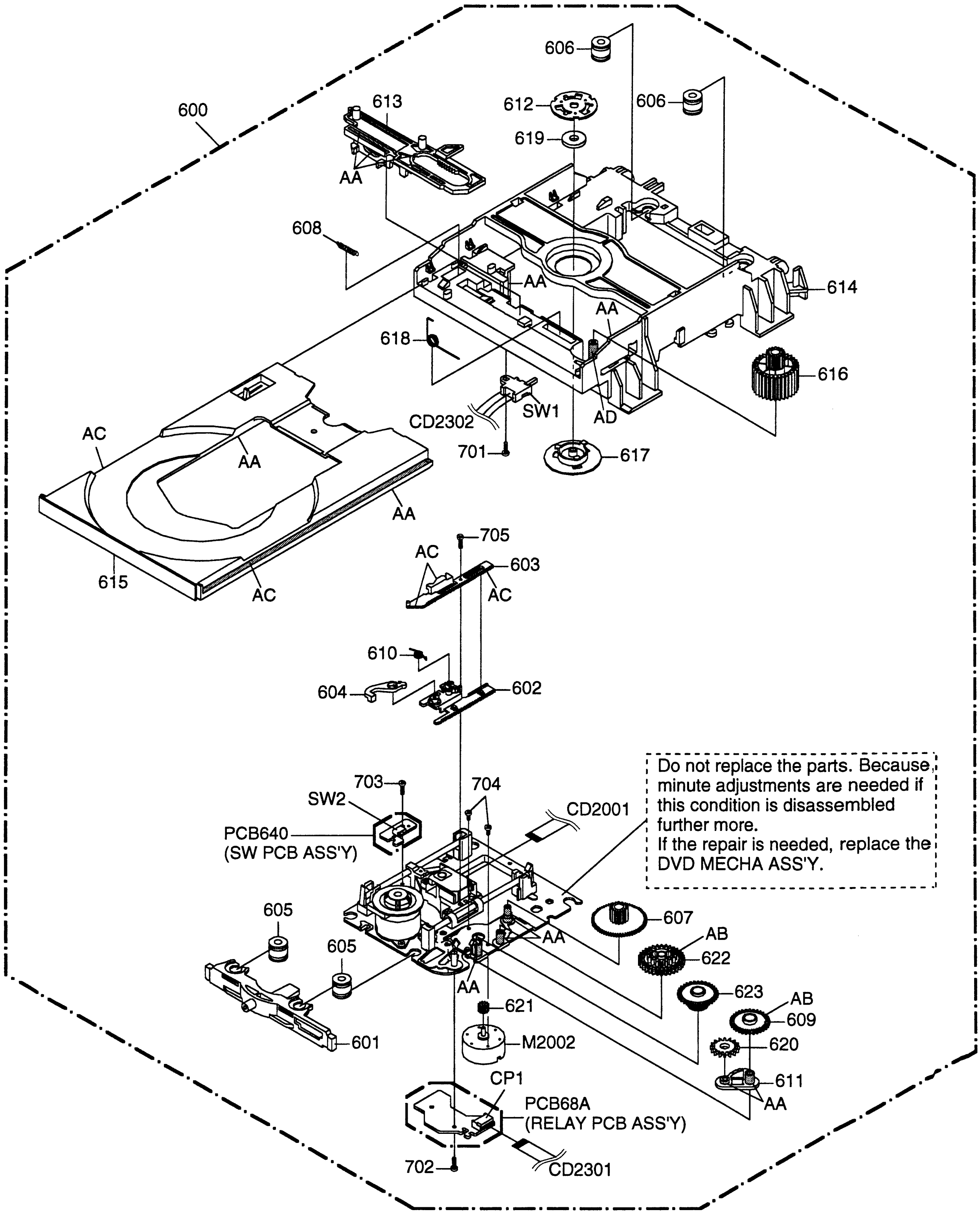


303
300
M2001
CD1501
502
CD1502
AA
339
AA
338
502
AA AA
AA
502
329
337
AD
311
AA
310
509
AA
340
AA
308
AB
AB
344
327
AA
343
AB
326
328
AA
505
330

CLASS	PART NO.	PART NAME	MARK
GREASE	Y315061000	G-555G	AA
	Y315071000	MG-33	AB
	Y31D011000	FG-84M	AC
	Y315041000	FL-721	AD
	Y315141000	G-313Y	AE

NOTE: Applying positions AA, AB, AC, AD and AE fo the grease are displayed for this section. Check if the correct grease is applied for each position.

DVD DECK EXPLODED VIEW


606
600
613
612
606
619
AA
608
AA
614
AA
618
616
CD2302
SW1
AD
AC
AA
701
617
AA
615
AC
705
AC
603
AC
610
604
602
703
SW2
704
CD2001
PCB640
(SW PCB ASS'Y)
605
607
AB
605
622
AA
AA
623
AB
621
609
620
601
M2002
CP1
611
PCB68A
AA
(RELAY PCB ASS'Y)
702
CD2301

Do not replace the parts. Because, minute adjustments are needed if this condition is disassembled further more.
If the repair is needed, replace the DVD MECHA ASS'Y.

CLASS	PART NO.	PART NAME	MARK
GREASE	Y315061000	G-555G	AA
	Y315121000	G-337F	AB
	Y315131000	SF-112	AC
	Y31D031000	ORG-102	AD

NOTE: Applying positions AA, AB, AC and AD for th
grease are displayed for this section.
Check if the correct grease is applied for eac
position.

MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
101	A5H002X720	CABINET,FRONT ASS'Y	
101A	701WPJC442	CABINET,FRONT	
101B	712WPBA075	FLAP,DVD	
101C	712WPJB921	FLAT,FLAP	
101D	713WPA0287	GLASS,LED	
101E	7232020561	BADGE,BRAND	
101F	7235630001	SHEET,DVD(NEW)	
101G	735WPAA614	HOLDER FLAP	
101H	735WPBA886	BUTTON,FRAME (L)	
101I	735WPBA887	BUTTON,FRAME (R)	
101J	743WKA0037	SPRING,FLAP	
101K	743WKA0043	SPRING,FLAP-DVD	
101L	800WQ00056	FELT,SHEET	100x5xT0.3
101M	800WQ0A078	FELT,SHEET	200x5xT=0.5
102	A5H002X740	CABINET,BACK ASS'Y	
102A	702WPAA584	CABINET,BACK	
102B	800WQ0A036	FELT,SHEET	8x390xT=0.3
102C	800WQ00041	FELT,SHEET	390x18xT0.5
103	701WPA0686	HOLDER,DECK	
104	701WPA0751	HOLDER,DECK	
105	752WSA0230	SHIELD,CASE HEAD AMP	
106	752WSA0290	SHIELD,COMPO	
107	753WUAA006	SPRING,EARTH HEAD AMP	
108	761WSA0098	SHIELD,21PIN	
109	85OP700038	HOLDER,END SENSOR	
110	8995034000	CORD CLIP UL CO.	
111	761WPA0223	HOLDER,FBT	
112	7232020746	SHEET,IC	
113	7250000586	SHEET,PC	
114	899HV3T000	HOLDER,ANODE WIRE	
115	761WSA0137	ANGLE,DECK	
116	7230007658	SHEET,JACK	
117	7260000341	SHEET,CAUTION	
118	752WSA0275	COVER,AC HEAD	
119	752WSA0292	SHIELD,AV JACK	
120	752WSA0319	ANGLE,ANTENNA 2	
121	752WSA0343	HOLDER,VCR	
122	752WSA0358	SHIELD,TOP	
123	752WSA0367	PLATE,BOTTOM ASS'Y	
124	753WSA0163	SHIELD,FRONT	
125	753WUA0062	SPRING,EARTH-TOP	
126	774WPA0002	HOLDER,WIRE	
127	890PS70100	PUSH SPACER	
128	800WR0A011	SHEET CRT SUPPORT (D)	
129	722202A762	SHEET,RATING	
130	899EFBA001	WIRING CLIP	
131	735WPBA576	BUTTON,POWER	
132	741WUA0001	SPRING,EARTH	
133	800WB0A008	FIBER WASHER	
134	743WKA0046	SPRING,TUNER	
135	752WSA0287	ANGLE,FRONT	
136	800WRA0002	CUSHION,DVD	

REF. NO.	PART NO.	DESCRIPTION		
201	8117540A64	SCREW,TAPPING(B0)	TRUSS	4x16
202	8117540804	SCREW,TAPPING(B0)	TRUSS	4x8
203	8141J50C54	SCREW,TAP TITE(P)	GW22	5x35
204	8107930604	SCREW,CUP(S)		3x6
205	8110630804	SCREW,TAP TITE(P)	BRAZIER	3x8
206	8109130B94	SCREW,TAP TITE(B)R	PAN	3x29
207	8109I30A04	SCREW,TAP TITE(B)	WH7	3x10
208	8109I30804	SCREW,TAP TITE(B)	WH7	3x8
209	8109630802	SCREW,TAP TITE(B)	BRAZIER	3x8
210	8109230804	SCREW,TAP TITE(B)	BIND	3x8
211	8107630B04	SCREW,TAP TITE(S)	BRAZIER	3x20
212	8107630804	SCREW,TAP TITE(S)	BRAZIER	3x8
213	8107230804	SCREW,TAP TITE(S)	BIND	3x8
214	8110630A04	SCREW,TAP TITE(P)	BRAZIER	3x10
215	810F130804	SEMS(F)		3x8
---	J5H00201A	INSTRUCTION BOOK(G)		
---	J5H00207A	QUICK SET-UP SHEET		
---	JB5Z0200	POLYBAG,INSTRUCTION		
---	A5H002X975	INSTRUCTION BOOK KIT		
---	791WHAA045	LAMIFILM BAG		
---	792WHA0462	PACKAGE,TOP		
---	792WHAA105	PACKAGE,BOTTOM		
---	793WCDB977	GIFT BOX		

CHASSIS REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
300	A5F602A420A	DECK ASSY	A5F602A420A
301	85OA400234	PINCH ROLLER BLOCK	
302	85OA500026	AHC ASS'Y	
303	85OP200290	BELT,CAPSTAN (S)	
304	85OP600581	WORM	
305	85OP500083	BASE,AC HEAD	
306	85OP800324	SPRING,AC HEAD	
307	85OA000459	MAIN CHASSIS ASS'Y	
308	85OA200089	CLUTCH ASS'Y	
309	85OA200090	ARM IDLER ASS'Y	
310	85OA300065	LOADING ARM S UNIT	
311	85OA300066	LOADING ARM T UNIT	
312	85OA400223	INCLINED BASE T UINT 3S	
313	85OA400232	P5 ARM ASS'Y 2	
314	85OA400235	TENSION ARM ASS'Y 2	
315	85OA400231	INCLINED BASE S UNIT	
316	85OP800367	SPRING LOCKER	
317	85OP900736	CASS,HOLDER	
318	85OP900748	CASS,SIDE L	
319	85OP900749	CASS,SIDE R	
320	85OP900739	LOCKER,R	
321	85OA900228	LINK UNIT	
322	85OP000496	POST,CASS GUIDE	
323	85OP200316	REEL,S (S)	
324	85OP200317	REEL,T (S)	
325	85OP200308	GEAR,IDLER	
326	85OP200311	GEAR,CLUTCH	
327	85OP200312	GEAR,COUPLING	
328	85OP200313	LEVER,CLUTCH	
329	85OP300194	GEAR,MAIN LOADING	
330	85OP400490	LEVER,TENSION	
331	85OP400492	HOLDER,TENSION	
332	85OP400520	CAP.P4	
333	85OP400542	BAND,TENSION	
334	85OP400533	CONNECT,TENSION	
335	85OP600573	ARM,BRAKE T	
336	85OP600584	BAND,BRAKE T	
337	85OP600577	CAM,PINCH ROLLER	
338	85OP600578	CAM,MAIN	
339	85OP600579	ROD,MAIN	
340	85OP600582	GEAR,JOINT	
341	85OP800322	SPRING,TENSION	
342	85OP800360	SPRING,BRAKE T	
343	85OP800355	SPRING,COUPLING	
344	85OP800356	SPRING,RING	
345	85OP900750	LEVER,LINK 2	
346	85OP900744	LEVER,FLAP	
347	85OP900745	CASS,OPENER	
348	85OP700035	REFLECTOR,LED	
349	85OP900746	BRACKET,TOP 3V	
501	8107226804	SCREW,TAP TITE(S) BIND	2.6x8
502	83ETW30000	E-RING	3
503	8107226404	SCREW,TAP TITE(S) BIND	2.6x4
504	8102120604	SCREW,PAN	M2x6
505	8109126604	SCREW,TAP TITE(B) PAN	2.6x6
506	810A130404	SCREW/WASHER(A)	M3x4
507	810A126504	SCREW/WASHER(A)	M2.6x5
508	82Q264713N	POLYSLIDER WASHER	2.6x4.7xT0.13
509	82P184505N	POLYSLIDER WASHER(CUT)	1.8x4.5xT0.5
510	8107226604	SCREW,TAP TITE(S) BIND	2.6x6
CD1501	122H071704	CORD JUMPER	2H071704
CD1502	122Y021002	CORD JUMPER	2Y021002
H5001	1523Q91003	HEAD (AUDIO CONTROL)	VTR-1X2RPE22-756
H5002	1543Q02014	HEAD (FULL ERASE)	VTR-1X2ERS11-154
⚠ M101	1596S98001	MOTOR (LOADING)	MDB2B66
⚠ M2001	1510S98040	CAPSTAN DD UNIT	F2QVB33B
M2003	1589S11017	MICRO MOTOR	I2OAL05
⚠ UN4001	A2A741B500	CYLINDER UNIT ASS'Y	A2A741B500

DVD DECK REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
600	A5F804A650	DVD MECHA ASS'Y	A5F804A650
601	92P100022A	TRAVERSE HOLDER	
602	92P100080A	RACK,FEED 1A	
603	92P100081A	RACK,FEED 2A	
604	92P100035A	LEVER,RACK FEED	
605	92P200006A	INSULATOR(F)	
606	92P200007A	INSULATOR(R)	
607	92P100029A	GEAR,FEED	
608	92P300009A	SPRING,RACK L	
609	92P100028A	GEAR,MIDDLE 3	
610	92P300019A	SPRING,RACK FEED 1A	
611	92P100040A	ARM,IDLER 2	
612	92P000001A	CLAMPER PLATE	
613	92P100019A	RACK,LOADING	
614	92P100020A	MAIN FRAME M	
615	92P100039A	TRAY	
616	92P100023A	GEAR,MAIN	
617	92P100024A	CLAMPER	
618	92P300002A	SPRING,RACK LOADING	
619	92P400002A	MAGNET,CLAMPER	
620	92P100030A	GEAR,IDLER	
621	92P100025A	GEAR,MOTOR	
622	92P100083A	GEAR,MIDDLE 1	
623	92P100027A	GEAR,MIDDLE 2	
701	8110226804	SCREW,TAP TITE(P) BIND	2.6x8
702	8110120604	SCREW,TAP TITE(P) PAN	2x6
703	8107220504	SCREW,TAP TITE(S) BIND	2x5
704	8140117254	SCREW,PAN	M1.7x2.5 P3
705	8110220804	SCREW,TAP TITE(P) BIND	2x8
CD2001	122H0O1901	CORD JUMPER	2H0O1901
CD2301	122H080701	CORD JUMPER	2H080701
CD2302	06CH232101	CORD CONNECTOR	232101
CP1	069JV80180	CONNECTOR PCB SIDE	IMSA-9615S-08C-PP
⚠ M2602	1515S98001	FEED MOTOR	BCD3B81
PCB640	A5E601V640	PCB ASS'Y	BEC001A
PCB68A	A5E601V680	PCB ASS'Y	BEC002A
SW1	0515S32001	SWITCH	SSS-23-6
SW2	0500101036	PUSH SWITCH	ESE22MH22

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		
RESISTORS				
⚠ R408	R3X18A271J	R,METAL OXIDE	270 OHM 2W	
R427	R002T4124J	RC	120K OHM 1/4W	
⚠ R430	R3X18A471J	R,METAL OXIDE	470 OHM 2W	
⚠ R447	R65582680J	R,FUSE	68 OHM 1/2W	
⚠ R448	R3K181102J	R'METAL	1K OHM 1W	
⚠ R450	R6358A2R2J	R,FUSE	2.2 OHM 2W	
⚠ R803	R3X18A123J	R,METAL OXIDE	12K OHM 2W	
⚠ R805	R3X18A123J	R,METAL OXIDE	12K OHM 2W	
⚠ R807	R3X18A123J	R,METAL OXIDE	12K OHM 2W	
⚠ R1701	R002T2155J	RC	1.5M OHM 1/2W	
⚠ R1703	R63581R22J	R,FUSE	0.22 OHM 1W	
⚠ R1704	R5X2CE2R2J	R,CEMENT	2.2 OHM 7W	
⚠ R1706	R3X28BR27J	R,METAL OXIDE	0.27 OHM 3W	
R1707	R5X34F332J	R,CEMENT	3.3K OHM 10W	
⚠ R1730	R3X181R15J	R,METAL OXIDE	0.15 OHM 1W	
⚠ R1735	R3X28B104J	R.METAL	100K OHM 3W	
⚠ R3002	R655U4100J	R,FUSE	10 OHM 1/4W	
⚠ R3006	R655U4100J	R,FUSE	10 OHM 1/4W	
⚠ R3108	R655U4100J	R,FUSE	10 OHM 1/4W	
⚠ R3608	R655U4100J	R,FUSE	10 OHM 1/4W	
⚠ R3612	R635U4220J	R,FUSE	22 OHM 1/4W	
⚠ R3614	R635U4220J	R,FUSE	22 OHM 1/4W	
⚠ R3623	R3X28B010J	R.METAL	1 OHM 3W	
CAPACITORS				
C322	E02LF3102M	CE	1000 UF 25V	
C405	E5EZF3222M	CE	2200 UF 25V	
C421	E5EZF4102M	CE	1000 UF 35V	
C423	P4J7F3474J	CMPP	0.47 UF 250V PMS	
C424	P4N8FJ722H	CMPP	0.0072UF 1.25KV	
C425	P4N8FJ391J	CMPP	390 PF 1.25KV	
C431	E5EZFD220M	CE	22 UF 250V	
C450	C0PLRR713K	CC	0.001 UF 2KV R	
C802	C0JBB07H3K	CC	0.0022UF 2KV B	
C1003	E51A0P104Z	CE	0.1 F 5.5V	
⚠ C1701	P2122B334M	CMP	0.33 UF 275V ECQUL	
C1703	C0JBB07H3K	CC	0.0022UF 2KV B	
C1704	C0JBB07H3K	CC	0.0022UF 2KV B	
C1705	E52D0H221M	CE	220 UF 400V	
C1712	E5EZF3102M	CE	1000 UF 25V	
C1713	E5EZF2222M	CE	2200 UF 16V	
C1715	C0PLRR7Q2K	CC	470 PF 2KV R	
C1717	E62NFC221M	CE	220 UF 200V	
⚠ C1718	CD39B0MQ2K	CC	470 PF 250V	
C1723	E5EZF3102M	CE	1000 UF 25V	
⚠ C1727	CD39B0MQ2K	CC	470 PF 250V	
⚠ C1728	CD39E0M13M	CC	0.001 UF 250V	
C1730	E02LF3222M	CE	2200 UF 25V	
⚠ C1732	CD39E0M13M	CC	0.001 UF 250V	
C1733	P3N1F5103J	CPP	0.01 UF 630V	
C1734	C0PLRR712K	CC	100 PF 2KV R	
C1735	C0PLRR7H2K	CC	220 PF 2KV R	
C3616	E02LF2102M	CE	1000 UF 16V	
C4261	CQG0B04H3K	CC	0.0022UF 50V B	or
	CQGTB04H3K	CC	0.0022UF 50V B	
C4262	CQG0B04H3K	CC	0.0022UF 50V B	or
	CQGTB04H3K	CC	0.0022UF 50V B	
C4583	CQG0CH4N2J	CC	390 PF 50V CH	or
	CQGTCH4N2J	CC	390 PF 50V CH	
DIODES				
D351	D28TQS04N0	DIODE SCHOTTKY	11EQS04N-TA1B2	
D403	D2WT011E10	DIODE SILICON	11E1-EIC	
D404	D2WT011E10	DIODE SILICON	11E1-EIC	
D406	D2WT011E10	DIODE SILICON	11E1-EIC	
D407	D2WT11ES10	DIODE SILICON	11ES1-EIC	
D411	D2WXN49370	DIODE SILICON	1N4937	
D413	D2WXN49370	DIODE SILICON	1N4937	
D601	DD1R0MA770	DIODE,SILICON	MA77	
D602	D2WT011E10	DIODE SILICON	11E1-EIC	
D603	D2WT011E10	DIODE SILICON	11E1-EIC	
D606	D97U08R21B	DIODE,ZENER	MTZJ8.2B T-77	
D607	D97U08R21B	DIODE,ZENER	MTZJ8.2B T-77	
D608	D97U08R21B	DIODE,ZENER	MTZJ8.2B T-77	
D801	D1VT001330	DIODE,SILICON	1SS133T-77	
D802	D1VT001330	DIODE,SILICON	1SS133T-77	
D803	D1VT001330	DIODE,SILICON	1SS133T-77	
D804	D1VT001330	DIODE,SILICON	1SS133T-77	
D805	D1VT001330	DIODE,SILICON	1SS133T-77	

REF. NO.	PART NO.	DESCRIPTION	
DIODES			
D806	D1VT001330	DIODE,SILICON	1SS133T-77
D1001	D97U06R21B	DIODE,ZENER	MTZJ6.2B T-77
D1003	0010E00330	INFRARED LED	LTE-3271T-012A-O
D1004	D1VT001330	DIODE,SILICON	1SS133T-77
D1005	D1VT001330	DIODE,SILICON	1SS133T-77
D1006	D2WXSB1400	DIODE SCHOTTKY	SB140-EIC
D1008	D97U05R11B	DIODE,ZENER	MTZJ5.1B T-77
D1009	D1VT001330	DIODE,SILICON	1SS133T-77
D1010	D2WXSB1400	DIODE SCHOTTKY	SB140-EIC
D1021	D1VT001330	DIODE,SILICON	1SS133T-77
D1201	D1VT001330	DIODE,SILICON	1SS133T-77
D1202	D2WXSB1400	DIODE SCHOTTKY	SB140-EIC
D1252	D1VT001330	DIODE,SILICON	1SS133T-77
D1261	D1VT001330	DIODE,SILICON	1SS133T-77
⚠ D1701	D2WTRM11C0	DIODE SILICON	RM11C-EIC
⚠ D1702	D2WTRM11C0	DIODE SILICON	RM11C-EIC
⚠ D1703	D2WTRM11C0	DIODE SILICON	RM11C-EIC
⚠ D1704	D2WTRM11C0	DIODE SILICON	RM11C-EIC
D1706	D1VT001330	DIODE,SILICON	1SS133T-77
D1708	D1VT001330	DIODE,SILICON	1SS133T-77
D1709	D2WXN49370	DIODE SILICON	1N4937
D1712	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
⚠ D1713	D28T21DQN9	DIODE SCHOTTKY	21DQ09N-TA2B1
⚠ D1715	D2LKB340L0	DIODE SCHOTTKY	SB340L-6737
⚠ D1716	D28T21DQN9	DIODE SCHOTTKY	21DQ09N-TA2B1
⚠ D1717	D28T21DQN9	DIODE SCHOTTKY	21DQ09N-TA2B1
D1719	D2WXRU2AM0	DIODE SILICON	RU2AM-EIC
⚠ D1720	D2WXN49370	DIODE SILICON	1N4937
⚠ D1721	D2WXRU3AM0	DIODE SILICON	RU3AM-EIC
D1723	D1VT001330	DIODE,SILICON	1SS133T-77
D1725	D1VT001330	DIODE,SILICON	1SS133T-77
⚠ D1727	D28F31DQ06	DIODE,SILICON	31DQ06-FC
D2001	DDARDS1210	DIODE SILICON	KDS121RTK
D2002	DDARDS1200	DIODE SILICON	KDS120RTK
D2201	0021721150	LED	SLR-342VCT32
D2203	0021721150	LED	SLR-342VCT32
D2204	0021721150	LED	SLR-342VCT32
D3001	D97U01501B	DIODE,ZENER	MTZJ15B T-77
D3002	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D3003	D2WT011E10	DIODE SILICON	11E1-EIC
D3602	D97U03301B	DIODE,ZENER	MTZJ33B T-77
D4203	D1VT001330	DIODE,SILICON	1SS133T-77
D4501	D1VT001330	DIODE,SILICON	1SS133T-77
D8501	DDDRL41480	DIODE SILICON	MCL4148
D8502	DDDRL41480	DIODE SILICON	MCL4148
D8503	DDDRL41480	DIODE SILICON	MCL4148
D8504	DDDRL41480	DIODE SILICON	MCL4148
D8505	DDDRL41480	DIODE SILICON	MCL4148
D8506	DDDRL41480	DIODE SILICON	MCL4148
D8510	DDDRL41480	DIODE SILICON	MCL4148
ICS			
⚠ IC353	I0FSP7522N	IC	AN7522N
⚠ IC401	I0WTD81740	IC	TDA8174A
IC601	I0WDE2248H	IC	STV2248H
IC1003	I9UF032310	IC	PST3231N
IC1006	I54F50144A	IC	OEC0144A
IC1099	A5H002X015	IC	AT24C08AN-10SI-2.7
IC1201	ICKF0310A0	IC	ET-TVT031A
IC1202	I0UF012310	IC	MM1231XF
⚠ IC1701	I2BT068530	IC	STR-W6853
⚠ IC1704	000220001W	PHOTO COUPLER	PS2561L1-1-V(W)
IC2001	I5PKL63160	IC	STM6316AXXZ
IC2301	I03F065600	IC	LA6560
IC2303	I07E00358F	IC	BA10358F-E2
IC2304	I07E00358F	IC	BA10358F-E2
IC2801	I03F00100M	IC	LA70100M-MPB
⚠ IC3002	I1KA97805A	IC	KIA7805AP
⚠ IC3003	I1KA97805A	IC	KIA7805AP
⚠ IC3101	I1KA97809A	IC	KIA7809AP
⚠ IC3601	I1KA97809A	IC	KIA7809AP
⚠ IC3602	I1KA97805A	IC	KIA7805AP
⚠ IC3603	I1KA97805A	IC	KIA7805AP
IC4002	I5PK055890	IC	STM5589A/A
IC4003	I5CF0CU040	IC	SN74AHCU04PWR
IC4007	IF8J064007	IC	IC42S16400-7T
IC4012	I5PJ060ET9	IC	M29W160ET90N6
IC4201	I0QJ045800	IC	NJM4580MTE1

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		
		ICS		
IC4204	I0UF015010	IC	MM1501XNRE	
IC4205	I0UF015010	IC	MM1501XNRE	
IC4501	I04F38225F	IC	HA118225F	
IC5501	I0KF79605H	IC	TDA9605H	
IC5502	I0UF015010	IC	MM1501XNRE	
IC5503	I0UF015010	IC	MM1501XNRE	
IC6602	I19FF34150	IC	MSP3415G-QG-B8	
IC6603	I1KA97805A	IC	KIA7805API	
IC8501	I0GF9XZ010	IC	PQ070XZ01ZP	
IC8502	I17F0742K0	IC	PCM1742KE/2K	
IC8504	I0GF9XZ010	IC	PQ070XZ01ZP	
		TRANSISTORS		
Q301	T8YJ2412K0	TRANSISTOR SILICON	2SC2412KT146 R,S	
Q302	T8YJ2412K0	TRANSISTOR SILICON	2SC2412KT146 R,S	
Q303	TNYJB05001	COMPOUND TRANSISTOR	DTC114EKAT146	or
	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK	
Q305	TNAAJ05003	COMPOUND TRANSISTOR	KRC111SRTK	
Q306	TNAAJ05003	COMPOUND TRANSISTOR	KRC111SRTK	
Q405	TCAT03227Y	TRANSISTOR SILICON	KTC3227_Y-AT	
⚠ Q406	TDUU024990	TRANSISTOR SILICON	2SD2499(LB0EC1)	
Q601	T8YJ2412K0	TRANSISTOR SILICON	2SC2412KT146 R,S	
Q602	T8YJ2412K0	TRANSISTOR SILICON	2SC2412KT146 R,S	
Q603	TPYJB05001	COMPOUND TRANSISTOR	DTA114EKAT146	or
	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK	
Q604	T8AA03881S	TRANSISTOR SILICON	KTC3881S-RTK	
Q605	T8AA03881S	TRANSISTOR SILICON	KTC3881S-RTK	
Q606	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146	or
	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK	
Q607	TC3T030000	TRANSISTOR,SILICON	2SC3000-AA	
Q608	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S	
Q610	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q611	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
⚠ Q801	TCATC3199Y	TRANSISTOR SILICON	KTC3199_Y-AT	
⚠ Q802	TCATC3199Y	TRANSISTOR SILICON	KTC3199_Y-AT	
⚠ Q803	TCATC3199Y	TRANSISTOR SILICON	KTC3199_Y-AT	
⚠ Q804	TC3F042170	TRANSISTOR,SILICON	2SC4217(D,E)-RAC	or
	TCA0042170	TRANSISTOR SILICON	KTC4217(O,Y)	
⚠ Q805	TC3F042170	TRANSISTOR,SILICON	2SC4217(D,E)-RAC	or
	TCA0042170	TRANSISTOR SILICON	KTC4217(O,Y)	
⚠ Q806	TC3F042170	TRANSISTOR,SILICON	2SC4217(D,E)-RAC	or
	TCA0042170	TRANSISTOR SILICON	KTC4217(O,Y)	
Q1001	0002700690	PHOTO COUPLER	RPI-303	
Q1002	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146	or
	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK	
Q1003	0002700680	PHOTO COUPLER	RPI-352C40N	
Q1004	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146	or
	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK	
Q1005	0002700690	PHOTO COUPLER	RPI-303	
Q1006	0000M00390	PHOTO TRANSISTOR	ST-304L	
Q1007	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S	
Q1009	0002700680	PHOTO COUPLER	RPI-352C40N	
Q1010	TPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146	or
	TPAAC05002	COMPOUND TRANSISTOR	KRA103SRTK	
Q1011	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q1015	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q1016	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q1017	0000M00390	PHOTO TRANSISTOR	ST-304L	
Q1101	TDAT00863Y	TRANSISTOR SILICON	KTD863_Y-AT	
Q1104	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q1253	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q1262	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q1703	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)	
Q1705	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT	
Q1706	TCAT032070	TRANSISTOR SILICON	KTC3207-AT	
Q2001	T67J1036K0	TRANSISTOR SILICON	2SA1036KT146	
Q2002	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S	
Q2003	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q2004	T27T030180	FET	2SK3018	
Q2005	T27T030180	FET	2SK3018	
Q2006	T67J1036K0	TRANSISTOR SILICON	2SA1036KT146	
Q2007	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q2008	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q2301	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q2302	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK	
Q2303	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S	
Q2304	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK	
Q2305	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK	

REF. NO.	PART NO.	DESCRIPTION		
		TRANSISTORS		
Q2804	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q2806	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
⚠ Q3001	TCAT03209Y	TRANSISTOR SILICON	KTC3209_Y-AT	
⚠ Q3002	TCAT03209Y	TRANSISTOR SILICON	KTC3209_Y-AT	
⚠ Q3006	TCAT03209Y	TRANSISTOR SILICON	KTC3209_Y-AT	
⚠ Q3101	TAAT01281Y	TRANSISTOR SILICON	KTA1281_Y	
Q3102	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q3601	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT	
⚠ Q3602	TBA0013660	TRANSISTOR SILICON	KTB1366(O,Y)	
Q3603	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT	
⚠ Q3605	TAAT01281Y	TRANSISTOR SILICON	KTA1281_Y	
Q3606	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)	
⚠ Q3607	TCAT03209Y	TRANSISTOR SILICON	KTC3209_Y-AT	
⚠ Q3608	TA3T1371A0	TRANSISTOR,SILICON	2SA1371(D,E)-AE	
Q3609	TC3T029090	TRANSISTOR,SILICON	2SC2909(S,T)-AA	
Q3611	TNATC03002	COMPOUND TRANSISTOR	KRC103MAT	
Q4001	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4002	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4003	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK	
Q4201	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4202	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S	
Q4203	TNAAD05001	COMPOUND TRANSISTOR	KRC104SRTK	
Q4204	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4205	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4206	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4207	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4208	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4209	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146	or
	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK	
Q4210	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4211	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4212	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4213	TPYJB05001	COMPOUND TRANSISTOR	DTA114EKAT146	or
	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK	
Q4214	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4215	TPYJA05001	COMPOUND TRANSISTOR	DTA143EKAT146	or
	TPAAA05001	COMPOUND TRANSISTOR	KRA101SRTK	
Q4216	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4217	TPYJB05001	COMPOUND TRANSISTOR	DTA114EKAT146	or
	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK	
Q4218	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4501	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4502	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT	
Q4505	TPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146	or
	TPAAC05002	COMPOUND TRANSISTOR	KRA103SRTK	
Q4506	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4507	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4508	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4606	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S	
Q4607	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4618	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q8501	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK	
Q8502	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK	
Q8503	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK	
Q8505	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
		COILS &TRANSFORMERS		
L352	02A6B2E0A1	CORE,FERRITE	HF70T22*10*14	
L401	021679472K	COIL	4.7 MH	
L402	0221000013	COIL,LINEARITY	ELH5L4112N	
L601	02AHB9A972	CORE,FERRITE	W5T29X7.5X19	
L602	021375101K	COIL	100 UH	
L603	0216A61R5K	COIL	1.5 UH	
L606	0216A61R0K	COIL	1 UH	
L607	0216A6R22K	COIL	0.22 UH	
L608	0216A68R2K	COIL	8.2 UH	
L610	021673101K	COIL	100 UH	
L611	021673101K	COIL	100 UH	
L612	033700005R	COIL,VIDEO IFT	3700005	
L613	02167F101J	COIL	100 UH	
L614	0216A6100K	COIL	10 UH	
L801	021673151K	COIL	150 UH	
L802	021673151K	COIL	150 UH	
L803	021673151K	COIL	150 UH	
L1001	0216A68R2K	COIL	8.2 UH	
L1203	02167F100J	COIL	10 UH	
L1204	02167F101J	COIL	100 UH	
L1205	02167F100J	COIL	10 UH	

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		
COILS &TRANSFORMERS				
⚠ L1701	029X000109	COIL,LINE FILTER	SS28V-K10410	
L1702	02AHA896A1	CORE,FERRITE	W5T18.4X10X9.6	
⚠ L1703	028R200015	COIL,DEGAUSS	8R200015	
L2001	0216S4100J	COIL	10 UH	
L2002	0216S4100J	COIL	10 UH	
L2004	02167F2R7J	COIL	2.7 UH	
L2201	0216A6100J	COIL	10 UH	or
	021LA6100J	COIL	10 UH	
L2202	0216A6100J	COIL	10 UH	or
	021LA6100J	COIL	10 UH	
L2801	02167F470J	COIL	47 UH	
L2804	0216A6680K	COIL	68 UH	
L3001	021673101J	COIL	100 UH	
L4001	02167F220J	COIL	22 UH	
L4002	02167F220J	COIL	22 UH	
L4003	02167F220J	COIL	22 UH	
L4004	02167F220J	COIL	22 UH	
L4201	0216A6100J	COIL	10 UH	
L4202	02167F101J	COIL	100 UH	
L4203	0216A6100K	COIL	10 UH	
L4204	0216A6100K	COIL	10 UH	
L4207	021673101J	COIL	100 UH	
L4208	0216A6100J	COIL	10 UH	
L4502	021375101K	COIL	100 UH	
L4503	0316260088	COIL,BIAS OSC	1626008	
L4505	02167F101J	COIL	100 UH	
L4506	02167F101J	COIL	100 UH	
L4507	0216A6820K	COIL	82 UH	
L4508	02167F220J	COIL	22 UH	
L4509	02167F220J	COIL	22 UH	
L4510	0216A6120K	COIL	12 UH	
L4511	0216A6390K	COIL	39 UH	
L4512	02167F101J	COIL	100 UH	
L4514	0216A6390K	COIL	39 UH	or
	021LA6390K	COIL	39 UH	
L4601	032623004T	COIL TRAP	STP-01064	
L4602	02167F101J	COIL	100 UH	
L4608	021673102K	COIL	1 MH	
L5501	02167F101J	COIL	100 UH	
L5502	02167F101J	COIL	100 UH	
L6601	02167D220K	COIL	22 UH	
L6602	02167D220K	COIL	22 UH	
L6603	02167D220K	COIL	22 UH	
L8501	02167F2R2J	COIL	2.2 UH	
L8502	02167F2R2J	COIL	2.2 UH	
L8503	02167F2R2J	COIL	2.2 UH	
L8504	02AHB9A972	CORE,FERRITE	W5T29X7.5X19	
L8507	02167F2R2J	COIL	2.2 UH	
L8509	02167F2R2J	COIL	2.2 UH	
T401	045013003J	TRANS,HORIZONTAL DRIVE	ETH14Y47AY	
⚠ T1701	0481390334	TRANSFORMER,SWITCHING	81390334	
JACKS				
⚠ J801	066F130020	SOCKET,CATHODE RAY,TUBE	ISHS53S	
J2201	060J131015	HEADPHONE JACK	MSJ-2000	
J2202	060G421016	RCA JACK	HTJ-032-05AY	
J2203	060G421017	RCA JACK	HTJ-032-05AW	
J2204	060G421020	RCA JACK	HTJ-032-05AR	
J4201	063D100050	SOCKET,21PIN	MRC-021V-07_A	or
	063G100046	SOCKET,21PIN	035_0_9972_05	
J8007	060J411029	RCA JACK	MSP-213V1-732_PBSN	
SWITCHES				
SW1001	0508S11001	SWITCH (LEAF)	LSA-1144EAU	
⚠ SW1702	0530105019	SWITCH	ESB92S22B	
SW2201	0504101T34	SWITCH,TACT	EVQ21505R	
SW2202	0504101T34	SWITCH,TACT	EVQ21505R	
SW2203	0504101T34	SWITCH,TACT	EVQ21505R	
SW2204	0504101T34	SWITCH,TACT	EVQ21505R	
SW2205	0504101T34	SWITCH,TACT	EVQ21505R	
SW2206	0504101T34	SWITCH,TACT	EVQ21505R	
SW2207	0504101T34	SWITCH,TACT	EVQ21505R	
SW2251	0504101T34	SWITCH,TACT	EVQ21505R	
SW2252	0504101T34	SWITCH,TACT	EVQ21505R	
SW2253	0504101T34	SWITCH,TACT	EVQ21505R	
SW2254	0504101T34	SWITCH,TACT	EVQ21505R	
SW2255	0504101T34	SWITCH,TACT	EVQ21505R	
SW2256	0504101T34	SWITCH,TACT	EVQ21505R	
SW2257	0504101T34	SWITCH,TACT	EVQ21505R	

REF. NO.	PART NO.	DESCRIPTION	
SWITCHES			
SW2258	0504101T34	SWITCH,TACT	EVQ21505R
VARIABLE RESISTORS			
VR401	V1K63Q2BTE	VOLUME,SEMI FIXED	NVG6TLTAB471
VR402	V1K63H3BTE	VOLUME,SEMI FIXED	NVG6TLTAB222
VR1701	V1K63Q2BTE	VOLUME,SEMI FIXED	NVG6TLTAB471
P.C.BOARD ASSEMBLIES			
PCB010	A5H002X010	PCB ASS'Y	VMC296B
PCB070	A5H002X070	PCB ASS'Y	TMC568A
PCB110	A5H002X110	PCB ASS'Y	TCC429A
PCB130	A5H002X130	PCB ASS'Y	VMC297A
PCB270	A5H002X270	PCB ASS'Y	TECB14A
PCB310	A5H001A310	PCB ASS'Y	VEB981A
PCB320	A5H002X320	PCB ASS'Y	TECB13A
MISCELLANEOUS			
B1201	024HT03564	CORE,BEADS	W4BRH3.5X6X1.0
B1701	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B2001	024HC31022	CORE,BEADS	FCM2012H-102T04
B2002	024HC31022	CORE,BEADS	FCM2012H-102T04
B2003	024HC31022	CORE,BEADS	FCM2012H-102T04
B2004	024HC31022	CORE,BEADS	FCM2012H-102T04
B2005	024HC31022	CORE,BEADS	FCM2012H-102T04
B2301	024HC31022	CORE,BEADS	FCM2012H-102T04
B4002	024HC31022	CORE,BEADS	FCM2012H-102T04
B4004	024HC31022	CORE,BEADS	FCM2012H-102T04
B4203	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B8501	024HC31022	CORE,BEADS	FCM2012H-102T04
B8502	024HC31022	CORE,BEADS	FCM2012H-102T04
B8503	024HC31022	CORE,BEADS	FCM2012H-102T04
B8505	024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2
BT101	1412004008	BATTERY,MANGAN	R03(AB)E_2P_G
BT102	1412004008	BATTERY,MANGAN	R03(AB)E_2P_G
CD352	06CU149003	CORD CONNECTOR	CU149003
CD602	06CH01004A	CORD CONNECTOR	CH01004A
CD801	06CU823001	CORD CONNECTOR	CU823001
CD803	06CU012301	CORD CONNECTOR	CU012301
CD806	06CUG06001	CORD CONNECTOR	CUG06001
CD807	06CUG06001	CORD CONNECTOR	CUG06001
CD851	WEL6842038	FLAT CABLE	AWG26 7C GRAY 420MM
CD852	WBL6034038	FLAT CABLE	AWG26 4C BLACK 340MM
CF601	1029238R93	FILTER,SAW	TSF5330U
CF602	102E238R94	FILTER,SAW	K9650M
CF603	1012T03101	FILTER CERAMIC TRAP	MKT31.9MA110P-TF
CF604	1012T04001	FILTER,CERAMIC TRAP	MKT40.4MA110P-TF
CF605	1012T5R507	FILTER CERAMIC TRAP	TPWA02B-TF21
CP352	069S140419	CONNECTOR PCB SIDE	A2502WV2-4P
CP401	069J620100	CONNECTOR PCB SIDE	IMSA-9202B-1-02ZO03-PP
CP402	069S450089	CONNECTOR PCB SIDE	A1561WV2-A5P
CP403	069J620080	CONNECTOR	IMSA-9206H-T
CP603	069X170379	CONNECTOR PCB SIDE	07JQ-ST
CP801	069S320010	CONNECTOR PCB SIDE	A2361WV2-2P
CP851	067U007029	WIRE HOLDER	B2013H02-7P
⚠ CD1701	1206459803	CORD AC BUSH	6459803
CD1704	06CHU2017A	CORD CONNECTOR	CHU2017A
CD2201	06CH01429A	CORD EIS CONNECTOR	CH01429A
CD2251	06CU230702	CORD JUMPER	CU230702
CD4005	122S061401	CORD JUMPER	1.25X6X138XC
CD8005	06CU2F2201	CORD CONNECTOR	CU2F2201
CD8006	06CU2D3001	CORD CONNECTOR	CU2D3001
CD8501	122H0C2203	CORD JUMPER	2H0C2203
CD8505	06CU2B3301	CORD CONNECTOR	CU2B3301
CP1001	06972C0010	CONNECTOR PCB SIDE	TMC-J12P-B2
CP1702	069S420110	CONNECTOR PCB SIDE	A1561WV2-2P
CP1704	069S320419	CONNECTOR PCB SIDE	A3963WV2-3PD
CP2001	069JYOT099	CONNECTOR PCB SIDE	IMSA-9631S-24Y901
CP2201	069S230629	CONNECTOR PCB SIDE	A2001WV2-3P
CP2301	069JV80180	CONNECTOR PCB SIDE	IMSA-9615S-08C-PP
CP2302	069S230639	CONNECTOR PCB SIDE	A2001WR2-3P
CP3601	069S2F0629	CONNECTOR PCB SIDE	A2001WV2-15P
CP3602	069S2D0629	CONNECTOR PCB SIDE	A2001WV2-13P
CP3603	069D01001A	CONNECTOR PCB SIDE	003P-2100
CP4501	0697290620	CONNECTOR PCB SIDE	TOC-C09X-A1
CP4503	067U002019	WIRE HOLDER	B2013H02-2P
CP4505	069J760029	CONNECTOR PCB SIDE	IMSA-9604S-06Z14
CP6601	069Q1D0179	CONNECTOR PCB SIDE	CPB1813-0101
CP6602	069J150260	CONNECTOR PCB SIDE	6035B-05Z02-T
CP8001	069S2B0629	CONNECTOR PCB SIDE	A2001WV2-11P
CP8002	069J7C0029	CONNECTOR PCB SIDE	IMSA-9604S-12Z14

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
		MISCELLANEOUS	
CP8502	069J7C0019	CONNECTOR PCB SIDE	IMSA-9604S-12Z13
CP852A	067U004029	WIRE HOLDER	B2013H02-4P
CP852B	067U004029	WIRE HOLDER	B2013H02-4P
CP853B	069R270589	CONNECTOR PCB SIDE	52147-0710
CUS011	800WFAA006	CUSHION A	
CUS012	800WFAA007	CUSHION B	
CUS013	800WFAA008	CUSHION C	
EL001	124120301A	EYE LET	XRY20X30BD
EL002	124116281A	EYE LET	XRY16X28BD
⚠ F1701	080NT04004	FUSE	50T040H
⚠ FB401	043219015F	TRANSFORMER,FLYBACK	FQI-20B004
FH1701	06710T0006	HOLDER,FUSE	EYF-52BC
FH1702	06710T0006	HOLDER,FUSE	EYF-52BC
OS2202	0773071003	REMOTE RECEIVER	RPM7138-SH10
⚠ RY1701	0560V20115	RELAY	ALKS321
⚠ SP351	070C546004	SPEAKER	SG04H02BRA
⚠ SP353	070C546004	SPEAKER	SG04H02BRA
TM101	076R0GK020	TRANSMITTER	R25-1912
⚠ TU601	0145517008	TUNER,VHF-UHF	TUWRF4EG-778F2B
⚠ TH1701	D8E0J80A10	DEGAUSS ELEMENT	B59104-J80-A10
⚠ V801	098Y210453	CRT W/DY	A51LZM10X20N45
X601	100CT4R408	CRYSTAL	HC-49/U
X1001	100CT01002	CRYSTAL	HC-49/U-S
X1002	100DA32R01	CRYSTAL	DT-26
X1201	100CT01302	CRYSTAL	HC-49/U-S
X2001	100BT02003	CRYSTAL	HC-49U/S
X4001	100BT02701	CRYSTAL	HC-49U/S
X4501	100DT4R410	CRYSTAL	AT-49
X6602	100CT01803	CRYSTAL	HC-49/U-S

RESISTOR

RC..................	CARBON RESISTOR

CAPACITORS

CC..................	CERAMIC CAPACITOR
CE..................	ALUMI ELECTROLYTIC CAPACITOR
CP..................	POLYESTER CAPACITOR
CPP.................	POLYPROPYLENE CAPACITOR
CPL.................	PLASTIC CAPACITOR
CMP.................	METAL POLYESTER CAPACITOR
CMPL...............	METAL PLASTIC CAPACITOR
CMPP...............	METAL POLYPROPYLENE CAPACITOR